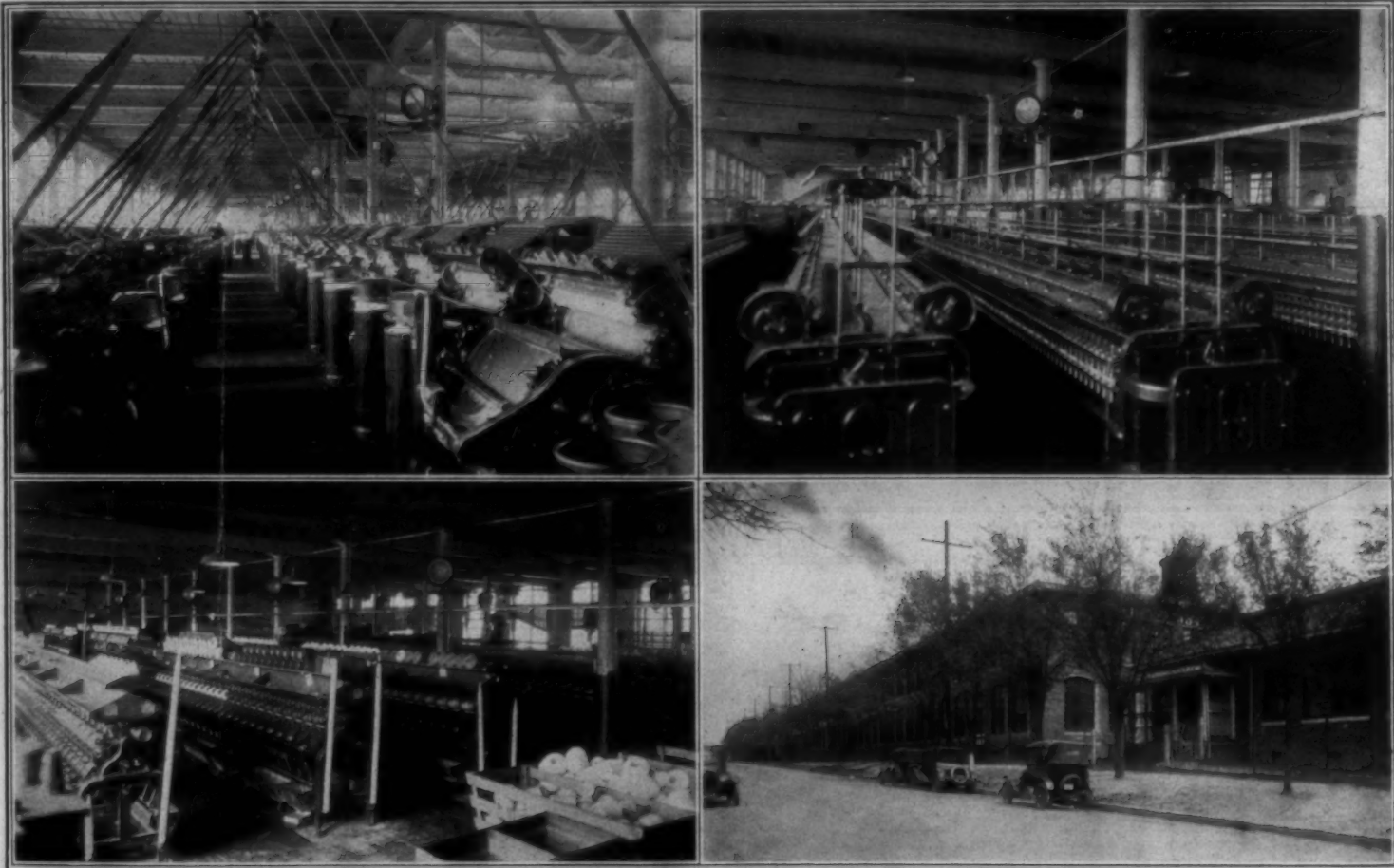


SOUTHERN TEXTILE BULLETIN

VOL. 28

CHARLOTTE, N. C., THURSDAY, MAY 28, 1925

NUMBER 13



Perkins Hosiery Mills, Columbus, Georgia, wanted a new humidifying system so they bought **BAHNSON HUMIDIFIERS**.

A **BAHNSON SYSTEM** of humidification installed now will supply the moisture needed to keep your work running smoothly during the summer months.

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A PROBLEM has arisen that challenges the serious consideration of our membership, and that is the need of textile machinery and repair parts plants in the South.

There is no adequate reason why we should be compelled to depend upon plants situated at remote centers which, in the very nature of things makes for expensive equipment and maintenance of our mills and resulting uneconomic supply and distribution of our products."

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American Cotton Mfrs. Assn.

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Charlotte Manufacturing Co.

Incorporated 1911
Charlotte, North Carolina

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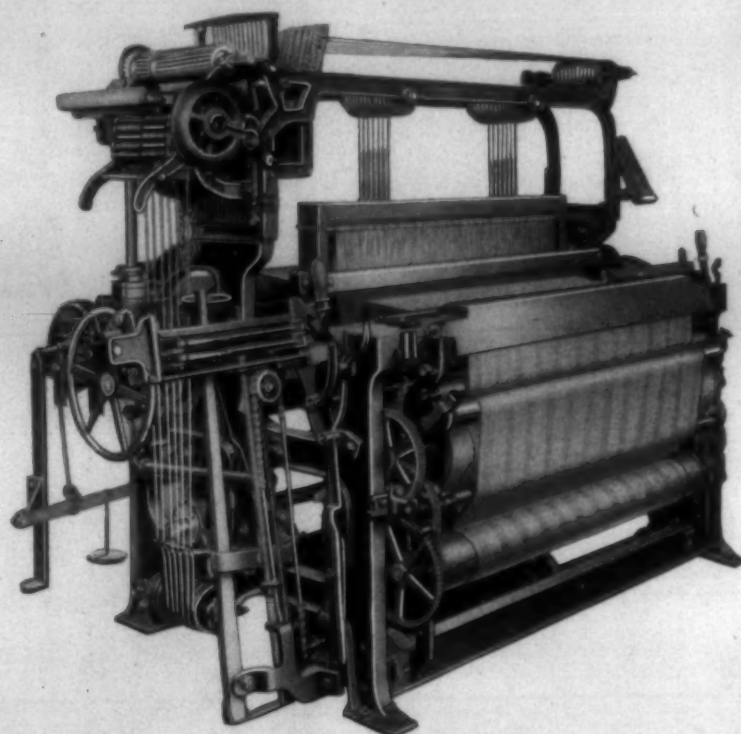
Being the pioneers in the manufacture of Thin Boiling Starches, we are gratified at the widespread recognition they have received.

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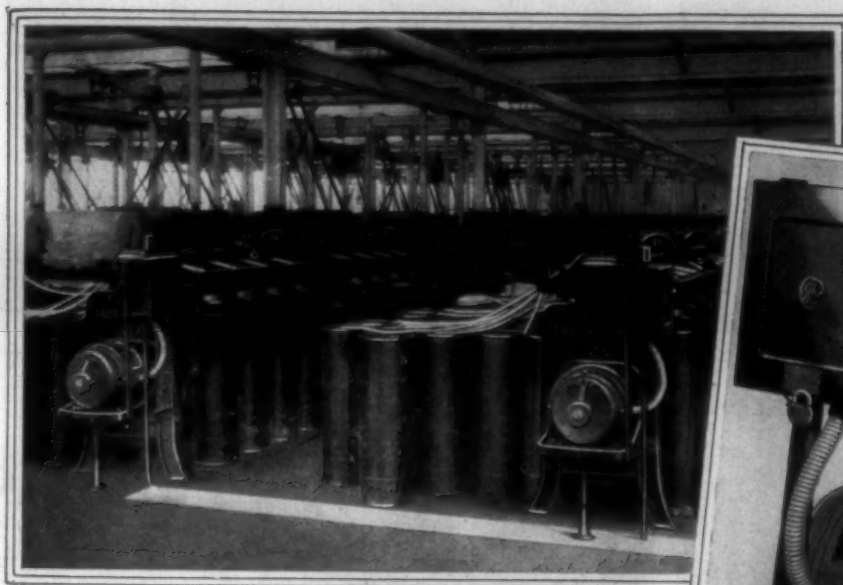
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Robert S. Mebane
PRESIDENT.

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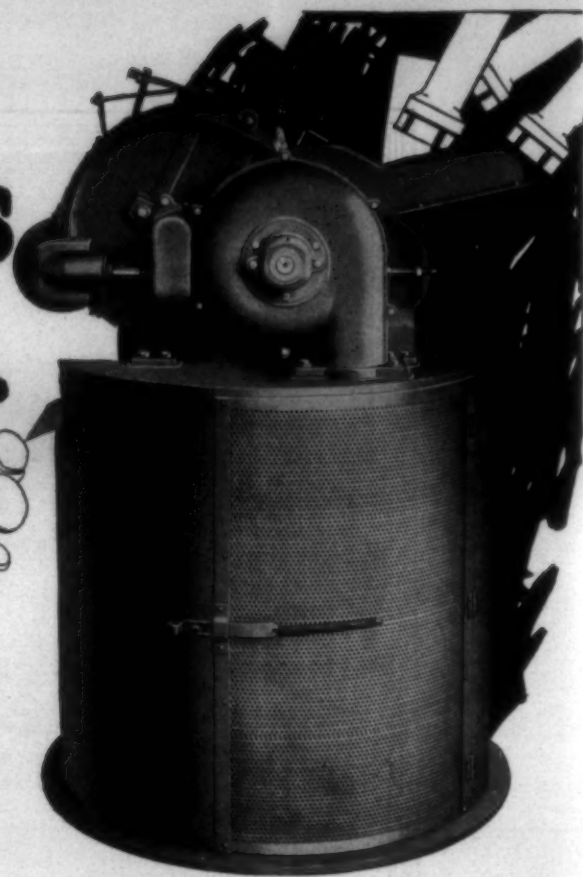


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the Termaco Roving Bobbin Cleaner could not pay for itself more certainly, more definitely. In a mill where a Termaco is operated at about half capacity, it pays for itself every four months through the savings effected by it.



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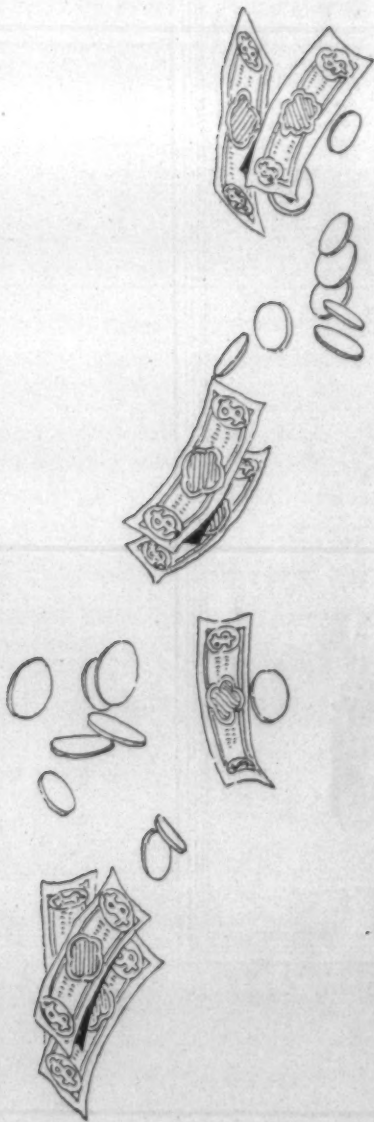
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VOLUME 28

CHARLOTTE, N. C., THURSDAY, MAY 28, 1925

NUMBER 13

North Carolina Labor Laws Strictly Enforced

RECENT statements appearing in the public press tending to discredit the operation of the child labor law in North Carolina have been receiving the attention of the State Child Welfare Commission. E. F. Carter, executive officer of the commission, says that a thorough going investigation of these charges, beginning with the writers of these articles and following through the factories alleged to be guilty of "flagrant violation of the child labor law," reveals no evidence that the statements are anything but false.

Delay has purposely been made in replying to this matter, Mr. Carter states, on account of the wide range of these statements and the determination to follow them up completely.

"Proceeding on the assumption that these writers were sincere, though I at once realized that some of their statements were false, I immediately requested, by letter of those in other States and personally of writers in this State, definite information in order that the commission could take the proper steps to correct it," said Mr. Carter. "In no case did I find any of these writers able to cite facts to support their vague but disparaging assertions.

On the other hand, recent visits have shown a decrease in the number of children employed in some of the large plants. In a personnel of 3,000 employees in the manufacture of tobacco, not one child was found under 16 years of age. One plant exhibited 85 age certificates which had been required of persons 16 years of age to assure compliance to the law. Another plant had records of negroes of doubtful age which had been established as high as 22 years old. In one large textile center 102 mills were visited and not a child under 14 years of age was found employed. These facts demonstrate the spirit of keeping inviolate our State statutes.

Rev. V. H. Hawkins, whose article appeared in the Christian Advocate of Nashville, Tenn., writes that his article was based "on a number of clippings from the city library, Tarrant, Ala., and that when he went back to the library to find the book he could not do so, as it was out. He was sure at that date, February 23, of finding the facts that he quoted as soon as the book was returned to the library. Nothing has been heard to date. He also

states in his communication that "I am sure they condensed what was in it, so that the reference to the Pittsburg factory should not have come under the head of North Carolina."

To this statement, R. H. Lansburg, Secretary of Labor and Industry for Pennsylvania, under date of February 21, says: "If the Pittsburg factory referred to is Pittsburg, Penn., I can assure you that the statement is absolutely false."

Investigation shows that the publication the Rev. Mr. Hawkins referred to as the source of his data has been published for 15 years. As it evidently never occurred to the Rev. Mr. Hawkins to look at the date of the issue he used, it is quite possible that the conditions he referred to existed, if they ever existed, long before the North Carolina child labor law was enacted.

In the article that appeared in the Christian Advocate are found such absurd statements as "in North Carolina one-fourth of the tobacco workers are children;" "the number working at it are on the increase;" "in one tobacco factory there are four hundred colored children, many of them are under six years of age;" "a child of only three years can straighten out leaves for wrappers, and a little worker of four is good help in stripping." "A ten-year-old girl is often an expert roller."

Statements Not Verified by Vital Statistics.

As to the physical effects resulting from child labor, he says: "Some say that the average life of children after they enter the mills is four years."

A study of the annual reports of the Bureau of Vital Statistics, of North Carolina for 1923 shows that the average death rate per thousand for the entire State that year was 12.0; Alamance county, with 36 textile plants, had a ratio per thousand of 12.8; Gaston county shows 12.6, with 100 mills; Iredell shows 9.4; and Cleveland, with 24 mills, had 7.7.

On the other hand, Columbus county, having no mills, shows 12.0; Surry, with only two small mills, had 11.2; and Edgecombe, with only a few mills, had 12.3. These last named counties have a population approximately equal to the industrial counties shown above. From any angle this study clearly shows that a county with a highly indus-

trialized population in this State compares favorably with the counties having few or no mills anywhere in the county.

In the reply of Dr. Rankin, Secretary of the State Board of Health, to the statement of Dr. Armstrong, he shows that our State, when compared with its closest competitors in textiles, has a difference in favor of North Carolina of an average of almost one whole day's sickness for each inhabitant; that of the principal causes for death, North Carolina had a less rate per thousand of population than its competitor. All of these truths stand out in the face of the fact that North Carolina has the highest birth rate and a death rate below the average.

The statement that "four years is the life of children who enter our industries" is preposterous, and cannot be taken seriously by any sober thinker. Any charge, therefore, that the life of the young industrial workers in the mills of North Carolina is appallingly short does not square with the facts.

Other statements were published in which these broad assertions were made: "The child labor laws are being flagrantly violated and evaded in a great many ways. It is a known fact that a great many children who ought to be in school are working. The writer evidently did not reflect upon the significance of his statements in discrediting the administration of the North Carolina child labor law. When recently interviewed by agents of the commission upon this matter, he frankly stated that he was unable to furnish any evidence of a technical violation of the North Carolina child labor law, by children being employed under 14 years of age. It was also admitted that the children reported as working and who ought to be in school were over 14 years of age. The conclusions appear to have been reached upon the assumption that the children were under the legal age for employment. A few instances of irregularity in certification were reported of which the commission had previous knowledge, and action.

The detecting of false evidence in certification or irregularity in this work is not new and has not been confined alone to State supervision. Cases are on record where our own investigations of child labor discovered children certificated before the State assumed control who were

not of age and others who were refused certification by the State because they did not comply with the standards named by the commission.

The commission does not wish to give the impression that violations of the law are never made. Last year there were 85 violations reported. These are, at present, three cases pending investigation as to regularity of certification, all of whom, however, had furnished evidence that they were over 14 years of age.

The strictness of this investigation may be illustrated by a recent inspection in which eight children who proved to be 16 years of age were temporarily suspended from working until a bona fide record of age was produced. But the charge that this law is being flagrantly violated, investigation does not prove, and it is emphatically denied.

Facts About Child Employment.

What are the actual facts about child employment in this State at the present time. Children 14 and 15 years of age, 4691. A decrease of 33 per cent is shown in the actual employment of children as compared with the number reported employed by the U. S. Census, in 1920. Every child under 14 years of age has been removed from the manufacturing and mechanical industries of North Carolina. A decrease of 1,514 children, or 25 per cent fewer, were certificated for employment in the textile mills in 1924. Of the children arriving at 14 and 15 years of age, only 3.5 per cent were found actually employed. Other major industries in the State showed a decrease in child employment. The statement that children are working who should be in school is a malicious design of words to deceive the public mind and leave the impression that they are under 14 years of age, which is not true. The surveys of a large number of the industrial counties in the Piedmont section this year prove conclusively that the industrial plants are using strict methods to prevent the violation of the child labor regulations and that fewer irregularities are found in all places of business than were reported last year.

The last biennial reports of the Labor Department, as well as the surveys of the commission, show
(Continued on Page 32)

Domestic Production of Rayon

THE growing importance of rayon, or artificial silk, as a textile fibre and the fact that a great many Southern mills are now using it, makes the following article of unusual interest in showing something of the extent to which rayon is being produced at home and abroad. The article is taken from a recent issue of Tariff Information Surveys, compiled by the United States Tariff Commission at Washington.

Classification of uses by size.—Classification of the uses of artificial silk by sizes is somewhat difficult on account of overlapping, but they may roughly be divided as follows:

- (a) Fine sizes below 150 deniers:
 1. Hosiery.
 2. Knit underwear.
 3. Broad silks.
 4. Ribbons.
- (b) Medium sizes, standard 150 deniers:
 1. Hosiery.
 2. Knit underwear (certain kinds).
 3. Braids and trimmings.
 4. Cotton goods and mixtures.
 5. Plushes.
 6. Webbing and small wares.
- (c) Coarse sizes above 150 deniers:
 1. Knit underwear.
 2. Millinery all-oxers.

3. Plushes and imitation furs.
4. Woolens.
5. Tapestries.

Production of fine sizes.—The manufacture of yarns as fine as 40 and 45 deniers has proved technically successful, but on account of high production costs has not been carried on up to this time on any extensive commercial scale. The efforts of technologists in the artificial-silk industry are being directed toward reducing the denierage of the individual filaments which, twisted together, compose the yarn of commerce. While the filaments from a silk cocoon averages 2 to 3 deniers, the artificial-silk filament as heretofore produced has ranged from 5 to 10 deniers in size. In the usual types of artificial silk on the market there are between 18 and 24 filaments in the 150-denier size and between 16 and 22 filaments in the 120-denier yarn. By decreasing the size of the individual filament and increasing, on the other hand, the number of filaments in the yarn, an improvement in quality results. The greater the number of filaments the softer is the feel and the greater are the strength and covering power. In the German industry, manufacture by the Thiele method of high-tension spinning (modification of cuprammonium process) has

resulted in the production of a 120-denier yarn consisting of not less than 90 filaments, each filament being as delicate in size as that of the silkworm. The Thiele yarns have been imported in America under the trade name of Bemberg tram, or Adler Seide, and are the only ones on the domestic market characterized by a low denierage and high average number of filaments.

Range of variation.—Artificial-silk yarns of a specified size do not conform exactly to their labeled denierage because of irregularity in the individual filaments along different portions of their length and in the average size of the various filaments as a whole. These defects result from lack of exact mechanical or chemical control or from mishaps in the process of production. An aperture may be clogged by a poorly filtered solution, or correlation may be lost between the density of the cellulose fluid and the rapidity and force with which it is fed through the aperture of the spinning nozzle. While in the raw-silk market the maximum and minimum average size of the thread is fixed for each count,⁵ it is not customary in the artificial-silk trade to designate such limits. That considerable dispersion in average size occurs is apparent from the data,

compiled from a series of 18 tests made on artificial silk of 150 denier counts, 20 skeins of 450 meters each being employed in each test.

According to these tests the yarn lots tested varied in average size from 140.86 deniers to 159.64 deniers, presenting approximately a deviation of 6 2-3 per cent either way from the labeled size of the skeins taken as a norm. The last variation of actual yarn counts in any one lot was 4 deniers, while one lot showed a variation of 50 deniers. The batches of yarn bearing test numbers 8 to 9 each have practically the same average denierage and yet show a very interesting example of the difference in evenness. In the one there is a variation of only 8 counts between the maximum and minimum limits; in the other lot a range of 50 counts. The fact that extremes of this nature are not indicated on the sizing tickets of the

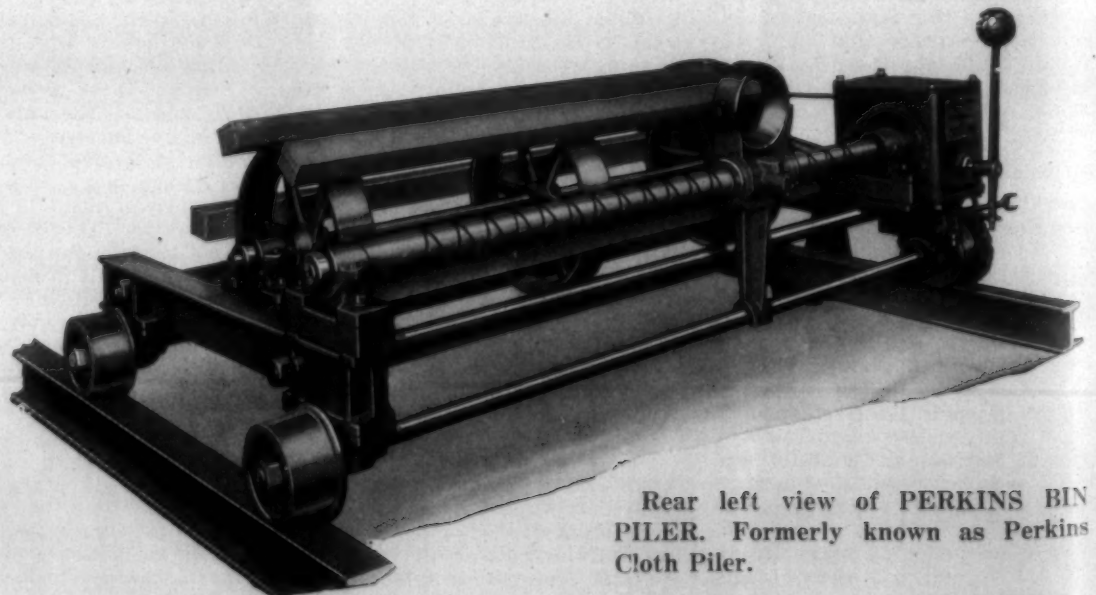
(Continued on Page 35)

⁵ The custom in the real-silk trade on the better class of silks permits the following limitations either way from the average given on each and every bale: 10-12 denier and finer, three-eighths denier either way is allowed. 11-13 to 15-17 denier, one-half denier either is allowed. 16-18 to 19-21 denier, three-fourths denier either way is allowed. 20-22 to 24-26 denier, seven-eighths denier either way is allowed. 25-27 to 28-30 denier, 1 denier either way is allowed.

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An Acknowledgment

by Chas. E. Carpenter,

Near Editor

I want to take this opportunity to acknowledge the many communications which have been sent to me by readers of these "explosions of thought," and to express my appreciation therefor.

Of course, this is not the only publication for which I write copy, or is it only one of a few. I probably address a million people monthly with my copy, and there are a lot of them take the time to write me. But unfortunately the Lord did not make the days long enough, and only gave me one pair of eyes, so it is a physical impossibility for me to personally read all of my mail. I suppose that I ought not to acknowledge this, but do as many others do, permit my secretaries to reply to my mail as if the reply came from me personally. But I am too old to learn such tricks. I have been telling the truth, straight from the shoulder, for so many years, that it has gotten to be a habit with me. But I do read a lot more than many folks think.

Most of those who write me, want to know my views on this, and my opinions of that. I am the Near Editor of a little magazine, which is published especially for the purpose of permitting me to give my personal views on things in general, likely to interest big men who are not afraid of an idea, even if they do not agree with it and this publication will reply to 75% of the communications. It is called *The HOUGHTON LINE*.

It has been twice voted the greatest success in the technical field of publicity; it is admitted to be in a class by itself when it comes to house organs and it has the largest circulation by far of any publication covering technical readers.

It is mailed gratuitously to mill men, but it is only mailed to individuals, and upon request. Under no circumstances will it be mailed to a corporation, firm, or mill. And it is only mailed on request. Not necessarily the request of the recipient, but upon the request of some responsible person. That is to say, if you are a reader of *The LINE*, you may have it sent to some friend or acquaintance, but the request must be made in writing.

Of course, you can obtain it for yourself, by filling out the coupon printed below.

Remember *The HOUGHTON LINE* is a regular publication. It is printed in its own print shop; there are 65 people employed in its production and circulation and it is a BANG UP publication in every respect. I am telling you, who ought to know, for I write every word of it from cover to cover, all of which may cause you to think that I lack modesty. But cut that modesty stuff. Modesty is the ability of a conceited man to disguise his conceit. Truthfulness is better than modesty. Of course, I do not profess to be a regular editor. I am only a Near Editor, and as a Near Editor I come remarkably near telling the truth about some things.

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QUALITY AND SERVICE SINCE 1866

Problems Connected With Oil Spraying Raw Cotton

Address by G. Van Tromp Govier, of A. E. Staley Manufacturing Company,
before Texas Textile Association.

IN view of the very considerable interest which has been recently displayed regarding the spraying of raw cotton before its passage through the later processes of manufacturing, I decided that I would prepare a short paper dealing with some of the problems connected with this new development.

The interest in this subject has become particularly evident since the Spring Meeting of the Textile Operating Executives of Georgia, when a short discussion took place regarding the results of some experiments carried out in several mills in Georgia recently.

I believe that you will agree that apart from the consideration of the advantageous results which have apparently been obtained during the preparation of yarn from oil sprayed stock, there are important problems regarding the possible effect of this oil in the later stages of cotton processing which must be carefully considered.

It would seem that a mistake has been made in comparing the oiling of wool with that of cotton, and that because wool has always been processed in this manner, then it is logical that similar treatment would be beneficial to cotton. While it is a fact that wool has always been oiled before spinning, the fact must not be lost sight of that the conditions involved are very different from those met with in the processing of cotton.

In the case of raw wool, the fiber has been absolutely deprived of its natural greases by the process of scouring, in which process these natural oily substances plus the dirt and other impurities are removed with detergents such as different forms of soap, carbonate of soda, silicate of soda and potash. In fact, in some instances, the natural greases are removed with volatile solvents such as benzene, naphtha, trichlorethylene, and other similar fat solvents. Whichever method be used, the fiber is left entirely free from any form of lubricant. This condition has to be taken care of by the addition of oil to enable the fiber to be spun into yarn. In addition of this oil to the wool fiber, there are no possible complications to be met with in a process of warp sizing, as there are when cotton is similarly oiled.

In the case of raw cotton stock, the fiber has not been cleansed, and its natural amount of natural oils and waxes are still contained by the fiber, to the extent of approximately four per cent as stated in a recent article in Cotton, under the title of "Cotton Wax, and Impurity of Raw Cotton." These natural waxes give considerable lubrication during processing.

Apart from the difference in conditions of processing wool and cotton, the physical form of the two fibers is vastly different, that of

wool having a scaly structure and that of cotton a very smooth surface.

The scales of the woolen fibers are likely to interlock one with the other during the various manipulations undergone by the wool while being spun and woven. This interlocking prevents the gliding of the fibers past each other, the latter being essential for correct spinning of woolen yarns.

The smooth surface of the cotton fiber in conjunction with the natural wax contained thereon, naturally glides past each other during the processing.

While cotton has always been processed without lubrication by oiling, this fact is no proof that addition of limited quantities of oil would not be beneficial.

If processing wool without the addition of some lubricant were attempted there would also result much loss of fiber when the material was passing over the cylinders of the carding engines in the schubling process. Such sheddings are reduced to a minimum by oiling, and a smoothness is imparted to the fiber. It also to some extent preserves the natural length of the staple.

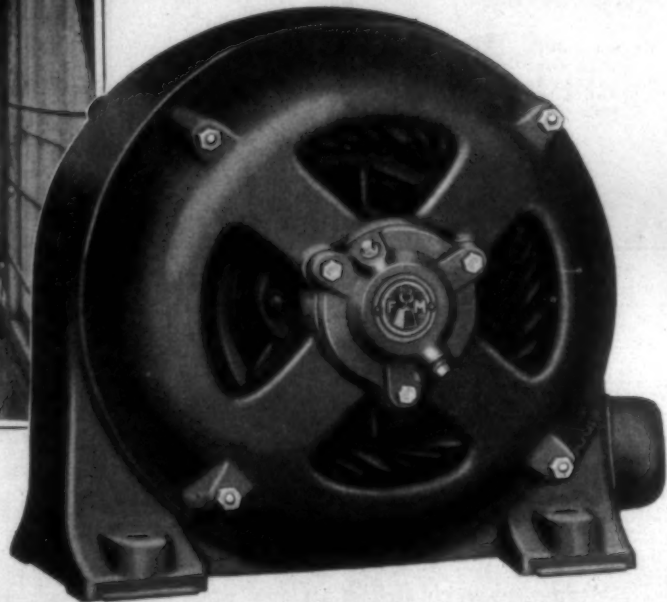
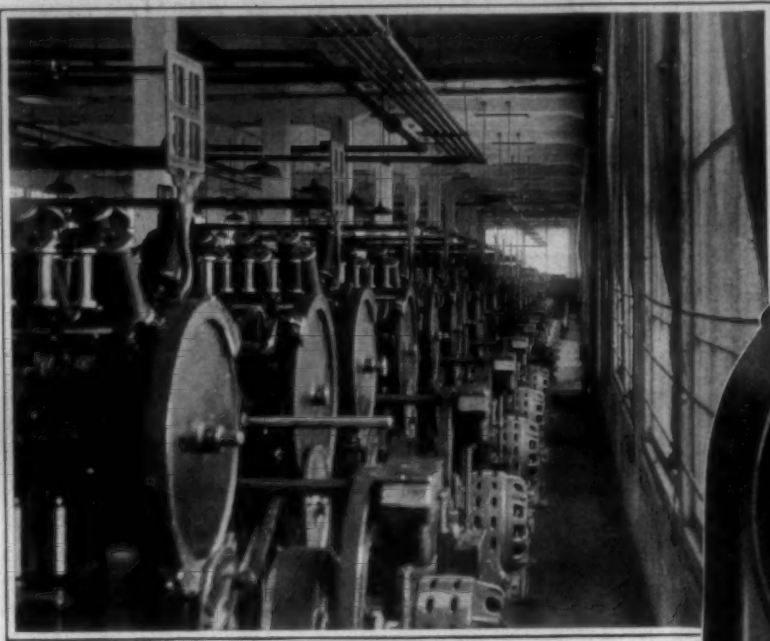
According to Beaumont, as much as fifteen per cent of oil is sometimes added to wool before spinning. Only one per cent has been recommended to be added to cotton, which, with the four per cent already present, raises the total oil content of oil-sprayed cotton to about five per cent.

It may be that an even greater addition of oil than one per cent can be made to cotton, and still improved results be obtained, providing the most suitable oil for this purpose be used. Nevertheless, the comparison of the two different fibers would certainly indicate that that of cotton requires much less lubrication than that of wool.

Whether additional oil over and above the recommended one per cent added to the raw cotton would facilitate or improve processing to an even greater degree, or reduce manufacturing costs, or otherwise prove practical can only be decided upon after extensive experiments have been carried out, and much data has been obtained. These experiments must be carried out under practical working conditions in the mill, the bleachery and dye house, where the advantages encountered in all processes after oiling until the completion of the finished goods can be accurately studied.

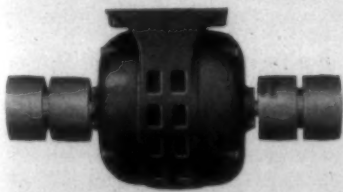
Not only must the advantages gained by better spinning be taken into consideration, but they must be balanced against the probable disadvantages which may be met with in the following processes of sizing, bleaching and finishing. On the other hand, experience may prove that no disadvantages would be met

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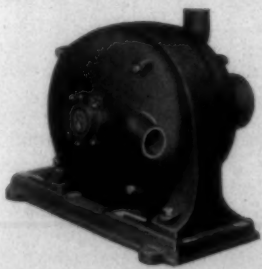


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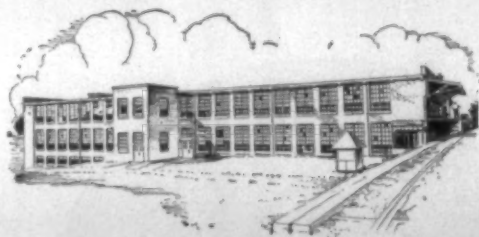
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U. S. Retains Cotton Supremacy

IMPROVED financial conditions are indicated in the cotton consuming markets of the world, according to a report issued by the U. S. Department of Agriculture in which it is pointed out that the crop harvested during the cotton year beginning August 1 last has been absorbed with extraordinary rapidity, and this in spite of its large size. The total crop amounted to 24,700,000 bales, or 1,000,000 bales over the average for the years between 1913 and 1919.

The United States is in no appreciable danger of losing its supremacy as a source of supply for high quality cotton, the department states. Exports from August 1 to March 31 were 6,841,918 bales, as compared with 4,617,316 bales for the corresponding period terminated March 31, 1924. U. S. Cotton exports in March were double those of March last year.

Exports from other countries producing a surplus of cotton evidently have not been as large, proportionately, the department observes.

The Department of Agriculture points out that the free movement of the American crop is in part a tribute to its superior spinning qualities, and in part a reflection of improved foreign exchange conditions. "The rise of sterling has been a powerful influence in stimulating the export movement," the report continues. "There is much more cotton on hand at European ports now than there was at this time last year, and the change is believed to show both increased power and increased willingness to assume the risks of holding a large supply until it is needed for consumption."

Highlights in the department's report follow:

Statistics recently compiled throw the changed world cotton situation into strong relief. In 1922, for example, the indicated supply of cotton on hand March 31 in this country was about 6,524,000 bales, although the crop of the preceding season had been only 7,978,000 bales. This year the indicated supply on hand March 1 was only about 1,579,000 bales, in spite of the fact that a crop of 13,631,000 bales last year, added to imports and carryover, made the total available supply for the season no less than 15,432,938 bales.

In the war period, when both production and exports of cotton declined, stocks in this country greatly increased. There has been an opposite tendency of late. While domestic consumption has remained practically constant in the neighborhood of 4,000,000 bales each year from August 1 to March 31, increased exports this year have brought about a great decrease in stocks. Although the carryover of July 31 this year will probably exceed the 1,555,514 bales on hand July 31, 1924, it will still be below the average carryover of recent years.

U. S. Consumption Up 9.1%.

It is interesting to note that American mills consumed 582,674 bales of cotton in March, against

485,840 bales in March of last year.

World mill consumption of cotton in the six months ended January 31, 1925, was 7 per cent greater than in the corresponding period ended January 31, 1924.

World mill stocks on February 1 were reported to be 4 per cent less than at the same time last year. They were nearly 20 per cent less than the stocks on hand February 1, 1923.

Consumption of American cotton increased from 5,712,000 bales, or 9.1 per cent. Consumption of Indian and Egyptian cotton, on the other hand, was less than in the previous year, although minor producing countries reported an increase in consumption of nearly 300,000 bales.

Foreign demand for cotton will probably absorb the remaining exportable surplus of the American crop at sustained prices. European mills are buying. There is increased activity in European cotton manufacture. Continued strength in Europe for cotton in the next few years seems probable, in view of the fact that the number of cotton spindles in the principal industrial countries on July 31 last was estimated to be 158,000,000, compared with only 143,500,000 bales on August 31, 1913. This is an increase of about 10 per cent. As it has not been accompanied by any corresponding increase in the supply of raw cotton, the balance of advantage ought to be with the sellers rather than the buyers of cotton for some years.

It is not expected that the United Kingdom, which hitherto has been the best market for American cotton, will expand its cotton consumption very greatly in the near future. The United Kingdom has more than one-third of the world total of cotton spindles. A material increase in this proportion is hardly likely in view of the extent to which countries that used to be heavy buyers of British-manufactured cotton goods are now spinning cotton for themselves. In the last decade, the United States, Japan, India and Brazil, which before the war were large consumers of cotton goods manufactured in the United Kingdom, have considerably increased their cotton manufacturing capacity. Nevertheless, there is a good prospect that the British market for American cotton will be well maintained. It was more active in 1924 than in 1923, and the forecast is for continued improvement.

Larger Acreage Likely.

Cotton growers, therefore, evidently need not worry about a market for their crop. Although prices as high as those that have prevailed in recent years may eventually lead to greatly increased cotton production in other countries, no dangerous competition with the American staple need be feared immediately. Meantime, production is the main concern.

Changes in cotton production in the United States are usually about 50 per cent attributable to changes in acreage. Weather conditions and

(Continued on Page 32)

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THE importance of an agate-smooth inside surface in mill receptacles cannot be exaggerated.

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Problems Connected With Oil Spraying Raw Cotton

(Continued from Page 10)

within these later processes, in fact that the addition of the oil sprayed in at the hoppers might assist them.

It is evident that oil spraying of the raw cotton reduces corrosion, or rusting of the steel parts of the equipment, and it is also claimed that there is a reduction of static, which would be undoubtedly most advantageous. The elimination of the rusting of the steel parts would be quite an advance in the direction of successful spinning. Reduction of dust and lint would also be a big advantage, while the production of a softer feel to the spun yarn might be a considerable attraction.

Further investigation might probably elicit the fact that less humidity would be needed in the earlier processes.

While it is claimed that the addition of the oil to the cotton increases the strength, as much as five pounds, it is worthy of mention that an investigator reports that by removing all the natural oil from cotton, the strength is increased considerably, but the elasticity is reduced. If this observation is correct, then it would not seem probable that an addition of an extra one per cent of oil would produce an entirely opposite result. According to the observation above,

the addition of this oil should even weaken the yarn rather than strengthen it, but should give it greater elasticity. The statement that the presence of wax in the yarn causes weakness is understandable, for obviously, the lubricating effect of the wax would cause the fibers to move easily pull apart when under stress, while when free from this lubricant, there would necessarily be a reduction in this sliding action. The presence of this lubricant would give elasticity however.

I am given to understand that oiling of raw cotton has been tried considerably in Europe, and it is probable that some mills over there have adopted it as a permanent measure, and in conjunction with the ageing of their stock before precessing.

H. D. Martin, of Griffin, Georgia, states that the use of this oil spray gives the following advantages:

1. Minimizes rusting of parts.
2. Smooths and brightens metal parts.
3. Cards strip easier.
4. Reduces static.
5. Dust is reduced.
6. Less flyings and droppings.
7. More cohesion of the fibers.
8. Less waste of the longer fibers.
9. More shorter fibers can be used if desired.
10. Fewer ends down in the spinning room.

11. Less lint on the cards and on the thread boards.

12. Finished fabrics less subjected to faults.

13. Better feel to yarns and cloth.

14. Yarns less likely to kink.

This is undoubtedly a most formidable list of superior results to be obtained by adopting this new process, and providing there are no serious disadvantages to be met with in the later stages of processing, it is evident that the oil-spraying is a valuable and important advance in the manufacture of cotton goods.

I discussed the effect of the natural waxes in raw cotton on the penetration of the size mixtures to the fiber in the February issue of Cotton. There I stated that the fiber was coated with a mixture of waxes, totalling about four per cent which resisted the penetration of the starch mixtures to the surface of the fiber, and increased the shedding hazard after sizing. Then it would be a welcome advance if some pre-sizing method of removal or disturbance of the wax were made, so that the starch mixture could reach the surface of the fiber proper. While it can penetrate between the fibers of the yarn (providing the starch solution is sufficiently thin) and fill the core of the yarn, it is doubtful if it properly attaches itself to the fiber's surface, the presence of the wax film on the fiber acting in the same capacity as waxed

paper acts toward starch paste. It repels the starch film, and when dry it will scale off, if not properly sized.

At present our only method of combating this is to size with very hot size mixtures, at a sufficient temperature to soften or melt, and probably dislodge the wax from its natural position as a protective covering. Or by the addition of emulsifying softeners such as sulphonated oil, which will tend to break up this film by their powers of emulsification, and thus allow more penetration of the starch mixture.

There is, however, an element of doubt regarding the exact behaviour of this natural wax film when being attacked by boiling size mixtures, or by boiling size containing such agents as sulphonated oils. That this film is extremely protective to the fiber against wetting, or absorption of liquids by the fiber, is evident by the difficulty in sinking raw cotton in water; and the effect of removing this coating, as regards the absorption of liquids by the fiber, can be readily observed by the ease with which the bleached cotton will soak up moisture.

The point we have reached now is whether the addition of this further one per cent of oil to the fiber intensifies the repulsion of the yarn toward moisture, and whether it

(Continued on Page 30)



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ALABAMA OPPORTUNITIES

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“**D**ISTRIBUTION of the average number of wage earners according to prevailing hours of labor and by selected states” shows that “the mills in the New England States operated chiefly on a 48-hour basis, while the mills in the cotton growing states operated largely between 54 and 60 hours a week”—U. S. Census of Manufactures.

In Alabama Cotton Mills, there are:—

11,949	wage earners employed in cotton goods manufacturing industries where prevailing hours of labor are between	54 and 60
5,202	wage earners where the hours are	60
292	wage earners where the hours are over	60
242	wage earners where the hours are	54

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Preponderantly native born—of Anglo-Saxon stock—intelligent, tractable, industrious—Alabama's textile mill operatives are not susceptible to those disturbing influences which are so frequent in foreign labor centers.

For further information on the textile industry in Alabama write the Alabama Power Co., Commercial Dept., Brown-Marx Bldg., Birmingham, Ala.



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Practical Discussions

By
Practical Men

Production of Foster Winder.

Editor:

Will you please have some reader tell us how to figure the production of a Foster winder?

The cone pulley is making 600 r.p.m., and is 13-14 inches in diameter. The roller pulley is 14 inches in diameter and the roller is 2 inches in diameter. We are making from 9s to 12s yarn.

Tennessee.

Spinning Runs Bad.

Editor:

My spinning room runs very bad and causes us much trouble. The roving seems to be twisted all right. The staple is none too long and the draft is right, but the steel rolls do not seem to draw right. I am wondering what is the matter with me or with my spinning frames. Can some good competent overseer of spinning advise me what to do? I like my job and want to stay where I am, but I will surely be dropped unless I can make the work go better. I might add that my frames are twenty years old.

New Overseer.

Short Staple Cotton.

Editor:

As you know our last year's cotton crop contains a good deal of short staple, and the drawing rolls have to be set most always way up close. But even then sometimes the rolls are not set close enough. I would like to ask if it would be a good idea to make the steel rolls smaller in diameter in the future, when making spinning frames. This would enable spinners to cope better with short cotton. May I hear from others on this point.

La.

Handling Rayon.

Editor:

Will someone handling rayon (artificial silk) answer the following questions for me:

How many pounds of artificial silk A-150-D does your hands run in ten hours? How many spindles? Speed of spindles?

How many pounds can one hand spool of the above silk in ten hours? Speed of spooler? Number of swifts one hand operates?

How many pounds can one hand run on A-300-D with swifts attached to winder running direct from skein to quill? Speed of spindle? How many spindles? C. F. S.

Reeling Skeins.

Editor:

Will some practical mill man give information as to how to make skeins Grant reeled with seven divisions on old Tompkins reel.

If this cannot be made on old style reels, where can equipment be secured for making this skein Grant reeled.

Learner.

Answer to L. A.

Editor:

I will try to give a good rule whereby you can ascertain the information you are after.

Here is a section beam of yarn of 500 ends of number 30s warp yarn, and 20,000 yards long. What should be the standard weight?

Here is the rule: Multiply the ends by the yards and multiply the yarn number by the constant number 840. Then divide into the former product, the quotient will be the standard weight:

Example:

Ends	Yds.	Dividend
500	×	20,000
		= 10,000,000
Yarn		
No.	Constant	Division
30	×	840
		= 25,200
10,000,000 ÷ 25,200		= 396 lbs.

Rule: Divide the yards by the pounds. Divide the quotient by the constant number 840. The answer will be the actual yarn number.

Example:

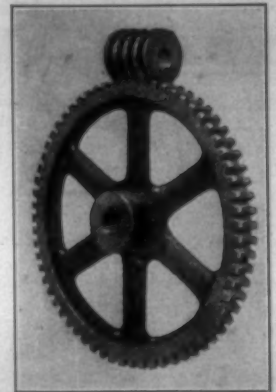
Yds.	Lbs.	Dividend
10,000,000	÷	410
		= 24,392
Div.	Constant	Yarn No.
24,392	÷	840
		= 29.04
Slasher Boss.		

Answer to J. L. B.

Editor:

In answer to J. L. B. regarding irregular shaped bobbins, will say that the reason why bobbins fill more rapidly at one end than at the other is account of the heart and lever not being properly set. There are several motions in connection with lifting and lowering the ring rail which must be in juxtaposition, that is they must synchronize. In other words, the ring rail must not run at a different speed during the upper half than it does during the lower half. To insure an even speed all the way up and down the length of the bobbin traverse, the following rules must be observed.

1. Set or block the ring rail at exactly one-half way up the length of the traverse.
2. Turn the heart or cam exactly one-half way around on its side.
3. Place the ling lever exactly level under the heart. That is, the



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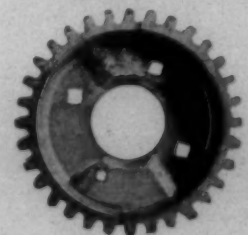
to any loom to replace a broken crank shaft gear. Saves material and time and also increases production.

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point of contact on the side of the heart must be level with the center of the pin on which the long lever swings.

4. The chain from the pulley which hooks into the slide gear must be hanging exactly over the middle of the point of contact of the heart with the long lever roll which is against the heart.

5. The slide gear must never be wound or pulled out any further outward from the center of the center of the chain pulley than it slides inward past the center when being automatically wound up. This absolute arrangement of the traverse mechanism will insure an evenly filled bobbin.

C. C. C.

Questions for Spinners.

Editor:

Please put the following questions in your quiz section:

1. How fine yarn can be spun from $\frac{1}{2}$ inch, 1 inch and $1\frac{1}{2}$ inch staples?

2. And to what number of counts they give best quality in regard to breaking strength and elasticity?

3. If I want to spin 20s yarn, what length of staple is most suitable and economical?

Answer to L. A.

Editor:

In answer to L. A.'s question as to how to find the standard weight of a full section beam I submit the following solution. As he does not give any number of yarn or the length of yarn on the section beam, we will assume that it is No. 30s yarn and 21,000 yards on a beam, 400 ends to each beam:

$$\begin{aligned} 21,000 \text{ yds.} \times 400 \text{ ends} &= 8,400,000 \\ 840 \times 30 &= 25,200 \text{ of No. 30s yarn} \\ 8,400,000 \div 25,200 &= 333.3 \\ \text{weight of yarn on beam} \end{aligned}$$

In order that L. A. might be able to understand clearly just what the above is, we offer this explanation: The total yards on the beam, multiplied by the number of ends on the beam would be equal to a single thread spun out, 8,400,000 yards long. 840 yards represents one pound of No. 1 yarn. This multiplied by the counts of the yarn equals the number of yards in one pound of No. 30s yarn, which is 25,200, and this divided into the total yardage will give the weight of the yarn on the beam.

Now suppose the beam weighed 340 pounds, L. A. wants to know what the number of the yarn would be. The problem then resolves itself into the following:

340

Answer to Night Work.

Editor:

In answer to the question by Night Work in a recent issue regarding organization of the mill for the night run, I will tell him how we handle this in our mill. We get as good results at night and our costs are lower than on the day run.

We have a mill of 60,000 spinning

spindles on tire fabrics. Each overseer is responsible for day and night shift in his department. We have no overseers at night except the second hands who take all orders from the day overseers in their departments. In this way we have every little misunderstanding which might result if we had two sets of overseers.

T. C. M.

Letter From a Second Hand

Mr. David Clark, Editor
Southern Textile Bulletin,
Charlotte, N. C.

Dear Sir:

I have been for several years a subscriber of your paper and used to find lots of news items of interest with an occasional article of interest to me.

Today your paper is not a collection of interesting news items for the mill man's interest but is an absolute necessity to the progressive southern cotton mill man. Your paper not only furnishes a complete account of every important gathering for exchange of experience and information, but every three or four issues carries articles of value enough to pay for any thoughtful man's subscription, while we get an issue one a year that furnishes enough statistical information about mills to make the subscription worth the price.

Moreover the Bulletin, regularly read supplies the best means of keeping forever brushed bright on L. C. S. Courses its readers have finished. It is indispensable to the energetic and ambitious men who are studying to keep abreast and it has lost none of its interest as a mill news organ, only we have grown more progressive.

But what prompted me to write was two or three recent editorials, that made me think it was high time somebody complimented. The one in which it was stated that some yarn mills would be benefitted by selecting farmers to manage them for a while was noteworthy, but "The Old Gray Hat" was a corker. Concise, direct and fearless, it came nearer fitting and sizing up the economic situation than anything that has been written in this country.

Being proud of the Old North State and her progress, I am proud that her greatest industry has an organ fully in step with her progressiveness.

This expression comes from only a second hand in a big card room and you may not appreciate it much but I have the satisfaction of seeing that their size doesn't count much when you get ready to take them a round in your editorials.

This is not intended for publication, just felt like I ought to write it out of my own feelings, so wishing your paper still further success, I am

Sincerely Yours.

Editor's Note—As the writer, who is a second hand in a large North Carolina mill, did not write the letter for publication, we are withholding his name. It is, however, such an interesting letter that we decided to publish it.

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Our Southern plant is now making reeds to meet the long time need of Southern cotton mills—"a reed to fit the fabric" instead of a reed with just so many dents per inch.

We also make all kinds of reeds, combs, leno reeds, etc., highest quality material and workmanship guaranteed.

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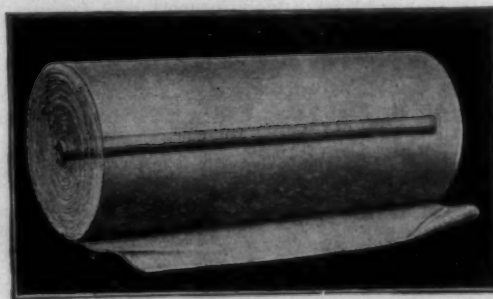
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American Cotton Cloth in Critical Condition

SO much in the South depends upon the health of the whole cotton industry that when things go wrong in it the whole South suffers; and just now one of the chief concerns here in this Southland seems to be as to what is the matter with American cotton cloth. It is almost incredible to believe the statement as sent out by the Department of Commerce that in the past ten years consumption of cotton in America has remained stationary, and also that during the past twenty-seven years the use of cotton cloth has actually decreased. The very fact that our wardrobes have grown bigger because we live in a style era and dress up more and because the standard of living has risen and because the industrial uses of cotton has neormously increased—these things should surely indicate a heavy increase in the personal and general use of cotton cloth but not so.

Away From Cotton.

This decrease seems to come from the steady trend away from cotton in all kinds of clothing for the human; nor can this tide be stopped by any advertising campaign as "Use More Cotton!" In these days of dressiness and style the wearer is going to use and despite all contrary arguments, whatever garments of whatever texture suits him or her personal tastes and this is right. If cotton has rivals that look better and feel better and wear better, then cotton must give way. It does seem as if cotton in its future is going continuously in greater volume into industril uses such as auto tires, leatheroid, pyroxylin, etc., while the makers of men and women's garments will in their trade go the more into other fibres than cotton. One thing, of course, that might add to the use of other textiles is the high price of cotton itself, but this does not cut the figure that might be supposed, for after all it is the attractiveness of a garment and not its comparative cheapness that leads to a sale. A factor in this matter, too, is the fact that a woman's dress contains 50 per cent less material than a few years ago and this, of course, allows the feminine world to dress in costlier goods.

Cotton's Great Rival.

The great rival of cotton is silk—silk-worm silk and artificial silk called rayon and made from fibers. It does seem as if very shortly rayon will outstrip silk and it will compete side by side with silk in quality while it will under cut perhaps 50 per cent in price. In looks rayon and silk-worm silk cannot practically be distinguished apart and in all of our purchases today no one stops to find out as to which type of silk we are buying. One of the amazing signs of the times is the increase in the plants that manufacture rayon—rayon plants that are being built both in the North and the South and in this country

and practically in all the countries of Europe.

The silk worm industry in which a particular worm converts as chewed up, the fiber of the mulberry leaf and transforming it in the end into a beautiful industry seems to hang in the balances just as much as does cotton. What could compete indeed with a great vat dissolving cotton or wood fiber en masse into a liquid and subsequently squirting it through small artifices into a form of silk?

As a fact all the undergarments of women today are silk. The cotton petticoat for example has passed on and passed on too very largely are the old time cotton dresses of calico, percale, gingham, etc. And who in all the land today wears cotton hose whose use just a little while ago was a universal matter? Interior decorations both in window curtains and for wall uses—these two are using up today vast amounts of rayon. Rayon is also bieng mixed with cotton in men's shirts and it is being used also in general as a mixture of wool and cotton in both men's and women's suits.

Imported Cotton Goods.

An alarming feature of the cotton goods dress situation is the large use of foreign goods to the neglect of American-made cotton goods. Wearers are claiming that they get more style and individuality and dressiness in these foreign goods; nor will high tariffs avail here so long as these foreign goods are attractive. A higher tariff in other words would not be an effective remedy. Simply putting a tariff on foreign cotton goods will not prevent the American women from buying what they believe to be the more attractive thing. It is true that very many of our American cotton mills have been working in their looms and turning out the same cloth for a generation. These mills are being advised along with converters and finishers to go more and more into individuality and style and to discontinue more and more the more common place weaves. This course is even being reflected at present up in New England where there seems to be a determination to turn from old time goods into the making of fine goods. But perhaps even this is not enough if these fine goods do not possess style, color and design of all which things are essential in this era which might be called the dress up era. If the mother is only buying a jumper for her child she wants style, color, and design.

A Gamble.

But of course even if the remedies as proposed for adoption by our American mills be carried out there would remain still a great deal of gamble in the whole matter. It is much the same gamble that continuously goes on in the lofts of the manufacturers of women's garments which is said to be the greatest gamble on earth. Who knows

(Continued on Page 22)

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Winding and Finishing Viscose Yarns

It cannot be too strongly emphasized that the successful use of viscose for nearly all purposes depends on the care taken in the preparatory processes. Of late years the special requirements of viscose users have received much attention from first-class machine makers, and there are some very useful machines now on the market specially constructed with a view to eliminating troubles arising from the use of the old types of machines.

As winding frames are usually of simple construction they can generally be adapted to the special requirements of the yarn. It is advisable to allow the yarn to run freely from the swift to the bobbin without passing over stationary parts that divert the angle of the thread from the swift to the bobbin, and the guides should be set so that the yarn does not bear on them.

Like silk, viscose threads are composed of a number of fine filaments lightly twisted together. When brought into contact with rough uneven surfaces these filaments are easily broken and cause trouble in the subsequent processes by bunching up as the thread passes through the guide or reed, which in turn causes breakages and inevitable knots.

Viscose may be said to be a good winding fibre, and the form in which the skeins are reeled and laced will be found to assist the winding, but to ensure the best result in the finished fabric much care is needed. Damage may be done at this stage which is not easy to detect until the fabric is finished. This is due to the fact that viscose stretches under tension, and does not wholly recover. As the stretched portion reflects the light differently, damages of this nature show up very distinctly, especially in viscose weft cloths, where they appear as bright, tight picks.

Viscose absorbs moisture readily, and when wet or damp it stretches very easily, therefore it should be wound dry in a dry atmosphere. The same fault may very often be traced to both the winding and the pining.

For this reason no machine is suitable for viscose that has an uneven action likely to cause varying tension. The yarn should run smoothly in all processes, particular care being taken to avoid jerks, strain, or uneven tension. Light swifts should be used with the minimum of drag consistent with even winding, and when putting on the skein the operator should be warned not to stretch it, but to move the

brace or cord to allow the skein to be slipped on lightly. The lacing knots should be on the right and the skein laid evenly on the braces, opened out, but not stretched out, examined to ensure none being used. The guides should be periodically that have a rough surface.

The tension applied should be no more than is necessary to prevent the yarn from "sloving" off the bobbin when full.

To avoid loopy threads when doubling viscose yarns together it is well to use yarn that has been wound as nearly as possible under the same conditions both of tension and humidity.

It will be noticed that a very few extra turns will considerably reduce the brightness and covering power, but this can be avoided by first putting into the single yarn a similar number of turns per inch in the opposite twist to that which is intended for the two-fold yarn.

The main points that should be impressed on the winder may be summarized as follows: Avoid strain and friction, make firm knots, and cut the ends off short.

Given light swifts and easy running frames, the successful winding of viscose should present no difficulty.

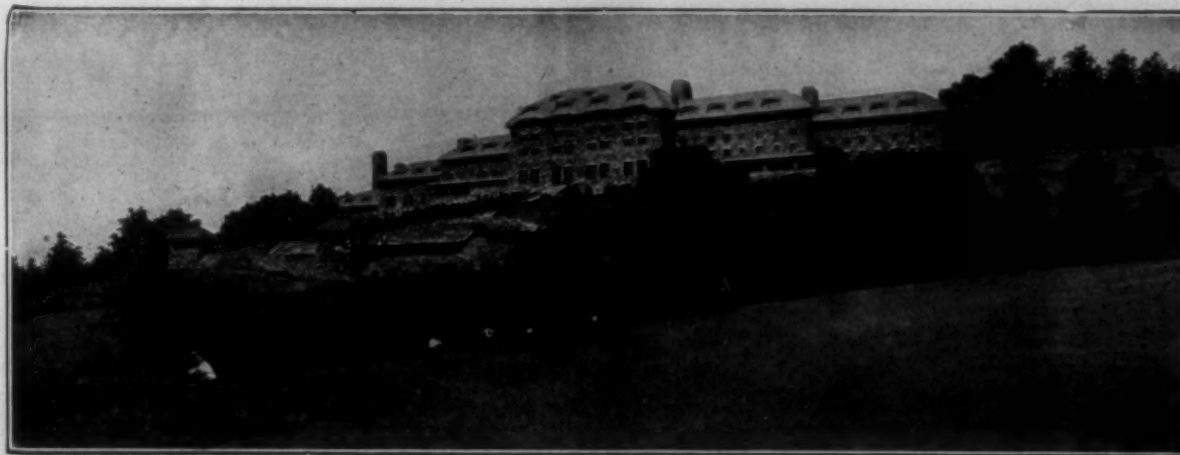
The problems that beset the fin-

isher of viscose fabrics are no more varied than those which have exercised the minds of finishers of textile fabrics in all times. In the treatment of silk, wool and cotton cloths we can draw on the accumulated experiences and practice of centuries, consequently there is limited scope for the production of new and original effects. This does not apply to viscose. Its extended use in textile fabrics, both in combination with other yarns and in all viscose materials, is of such comparatively recent date that there is still great scope for new treatments. The most experienced finishers are constantly finding improved methods of handling viscose materials to better effect. Here, then, is a held for the progressive manufacturers and finishers who are out for the production of new cloths and novel effects.

It is necessary to speak of the manufacturers and finishers in their dual capacity, as their intelligent co-operation is essential even for the simplest construction of fabrics. The finishers cannot get the best possible result from any cloth unless it is constructed and woven with due regard to the required finish. Careful study of the construction of a cloth to be dealt with will well repay the dyer and finisher, and, for each new type of

This is a photograph of Grove Park Inn, Sunset Mountain, Asheville, N. C.—the finest Resort Hotel in the world. It is absolutely fireproof and open all the year.

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fabrie that comes along, it is a wise precaution to experiment with a short length before proceeding with bulk lots.

It sometimes happens that pieces from different warps of the same quality behave differently, the most common cause being irregular tension either at the loom or in preparing the yarn. In the initial stages the operatives should be warned to keep a lookout for any unduly cockled pieces, as they may require some little difference in treatment, especially at the finishing, to avoid irreparable damage.

Where practicable it is often more economical to use bleached or bleached and mercerized cotton yarn in conjunction with viscose, but this cannot, of course, be laid down as a definite rule; it applies more particularly to cloths containing a large percentage of viscose, and serves to illustrate a point on which the co-operation of the manufacturer and finisher is beneficial to both. As a general rule, the ordinary treatment of cotton fabrics is much more drastic than that of silk and various combinations of silk and other fibres, and for this reason the most successful of the earliest users of viscose were found among manufacturers and finishers of silk and allied fabrics whose operatives were trained in the handling of materials that required even more care in treatment than the new fibre.

Owing to the multiplicity of types of cloth in which viscose is being used it is not possible to go into full details for each, but there are a few outstanding points that apply to all. It should be remembered that viscose has not the same elastic properties as other fibres. Under tension, especially when wet, it can be stretched appreciably before breaking, but when once stretched it does not wholly recover. The yarn is much more easily damaged when wet than in the dry state, and, though it has been much improved of late years in this respect, this factor should be carefully borne in mind during dyeing and finishing. The importance of avoiding undue stretch and friction, especially when wet, cannot be too strongly impressed upon the finisher of viscose fabrics.

Among the preparatory processes no special precautions are necessary for singeing other than those usually taken with cloths of similar character made with other fibres. With viscose and cotton, providing the cloth is not subjected to severe mechanics treatment or rough handling in the wet state, such as may occur between the nip rollers of washing and scouring machines, bleaching may proceed on similar lines to the ordinary cotton bleach. The fabric may be kier boiled in the usual type of pressure kier, using a caustic soda liquor of 2 deg. Tw. or soda ash of 3 per cent strength. For chemicking, neutral hypochlorite of soda of $\frac{1}{2}$ to 1 deg. Tw. is recommended, but the ordinary solution of bleaching powder can be employed. The goods are then scoured in acid at $\frac{1}{2}$ deg. Tw. In the subsequent washing care

must be taken to remove all traces of acid. Where it is required to treat the cloth in open width—and for many viscose and cotton fabrics this is preferable—the same treatment is used. To remove loom stains it may be necessary after bleaching to give a soap boil, with the addition of a special detergent, of which there are several on the market, and for badly stained goods a preliminary local treatment with the same solution is advisable.

In dyeing viscose behaves very similarly to mercerized cotton; it has more affinity for the dye than ordinary cotton, and, for this reason, special precautions are necessary to obtain even results on mixed fabrics. Light shades do not as a rule present much difficulty. The ordinary cotton methods, such as loose dyeing over a winch and jigger dyeing, are generally applicable, but the most level results are obtained on the padding machines. Especially is this so in the combinations of hard twisted cotton yarns and viscose. For this class of fabric a soda ash scour is preferable to the use of caustic soda; it has been found that the latter treatment makes the viscose absorb the dye more readily. It is because of this extra power of absorption that viscose is more fast to light than cotton dyed with direct dyes under the same conditions, owing to the deeper penetration of the dye.

The choice of dyes is a very important factor in successful dyeing. It should always be borne in mind that, though the same dyes will dye viscose and cotton, the affinity of the two fibres for particular classes of dyes varies considerably. For fabrics that can only be treated in a loose condition this careful choice of dyestuffs is of the utmost importance.

Viscose in a loose condition has more affinity for dyes than when it is kept under tension.

Fabrics made of silk and viscose or wool and viscose may be treated exactly as if they were combined with cotton, and, of course, lend themselves to cross-dyed effects in the same way.

It should be remembered that silk and wool have far greater elastic properties than viscose, which has practically none in comparison; consequently the need for great care in the choice of processes that avoid strain on the viscose is even of more importance than when dealing with combinations with cotton, which is less elastic.

The drying after dyeing has an important bearing on the finish, especially when a soft handle is required. For such goods loose drying is essential. The ordinary hydro extractor may be used to partially dry loose dyed cloths, but for fabric that should be kept at width it is advisable to have a machine which will allow the roll to be revolved at high speed, so as to throw out as much superfluous moisture as possible; the goods can then be passed on to the stove, which should not be too hot, and must be supplied with a current of warm air—about 120 deg. F. is the best temperature.

An alternative method of drying

(Continued on Page 28)

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Cotton Bagging Standard Fixed

Washington, D. C. — Standard weights for cotton bagging and ties, to reduce the amount of tare, were agreed upon at a conference of manufacturing and shipping interests with officials of the Department of Agriculture. Agreement on patches was deferred, pending further investigation.

The agreement in an important development of the tare conference, which was held several months ago at the department, where it was brought out that excessive use of bagging and ties and waste in the preparation of cotton for shipment was costing several hundred millions of dollars a year—producers, shippers and mills alike sharing in this loss. The conference was called at the suggestion of the tare committee of the American Cotton Shippers' Association.

Secretary Jardine welcomed the conferees, saying the department of Agriculture stands willing always to be a clearing house for problems, and to help the trade in any way possible.

A. W. Palmer, of the department, who presided, explained that last year the department had been requested by the New Orleans Cotton Exchange to standardize tare, as the irregularity was so great it was interfering with business. The department was forced to reply it had no such authority, but would be glad to co-operate and had employed M. R. Bevrige to undertake studies looking toward standardization.

Legislation Not Needed.

B. L. Anderson, of Forth Worth, said that legislation is not needed; that the tare rules are antiquated, and that it is up to the trade to modernize the merchandising of cotton so far as tare is concerned, and reach a basis satisfactory to all, from producer to spinner.

J. M. Locke, of Muskogee, Okla., chairman of the tare committee of the American Cotton Spinners' Association, said that tare is so irregular that it is necessary for importers or mills in foreign countries to sample bales to determine the tare, and that the cost of this sampling in export markets is estimated at \$500,000 a year, which must be borne somewhere along the line.

Shippers do not know the amount of tare on a bale when ginned, he said. He pointed out that it is necessary to apply patches to cover sample holes, and that patches vary in weight, and shippers must guess the additional tare and conform to the sale contract. Spinners must be educated to buy the standard tare, he declared.

The interests of the farmers, as represented by their marketing organization, are identical with those of the shippers, Mr. Anderson said.

Resolutions were adopted urging that bagging manufacturers adopt as standard for uncompressed cotton at the time of ginning bagging weighing two pounds to the yard, and advocate the use of this standard to their customers and agree with the department not to manufacture other than such standard for stock after 1925, but without ob-

ligation to decline to sell any customer any kind of bagging he demands.

Another resolution, along similar lines, fixed the standard of cotton ties as those weighing approximately 45 pounds per bundle of 30 pieces, including buckles.

The Patch Question.

The patch question was discussed fully, shippers stating what they believe should be done as to size and weight. The manufacturers declared there is a question whether a patch of sufficient strength can be made in the size and weight asked, at a reasonable price, and agreed to make up samples and submit them to the cotton committee of the Department of Agriculture for experiments.

American Cotton Cloth in Critical Position

(Continued from Page 18)

for example whether a certain garment or a certain bolt of cloth of a certain design of fabric and color and just made up will be popular and will sell. It is a fact that even some of the very best goods as made up whether wool, silk, or cotton fail to please; and many a Paris design does not meet with favor when going abroad. Style indeed is an indefinite thing. It cannot be forced. It is a thing not in the letter or the concrete but it abides seemingly in the lands of purest fancy.

In the future perhaps cotton will go more and more into industrial uses. There may be less and less of cotton lint fibers as used in men's and women's garments and more and more will be used perhaps as converted into cellulose and of course cellulose can be made of cotton wood, cotton waste, cotton rags and cotton linters. In other words cotton for industrial purposes and rayon for garments seem very plainly to be on the horizon of the future.—Greenville Piedmont.

Linen Industry in Belgium.

The manufacturing of linen is the most important of the textile industries of the Ghent district, Belgium, in so far as the United States is concerned. This region is one of the large linen centers of the world. Shipments to the United States during 1924, valued at \$4,220,582, consisted principally of dress goods but also covered yarns, thread and paddings. The bulk of this business was the result of large numbers of orders received during the latter part of 1923 and the first of 1924, for future delivery. Little interest was evidenced in the market during the latter part of 1924, owing to prices, which were considerably higher than in Ireland, to doubt as to the ability of manufacturers to deliver on time, and to the lack of demand in the domestic market. Wages increased 20 per cent during 1923 and another 15 per cent during 1924. These increases, as well as the prohibitive prices asked for raw material, and the handicap of an 8-hour day, contributed to the rise in prices on linen goods.

Silk for the Cotton Industry

The development of the demand in fine cotton goods for unusual effects has lead to the use of silk by our cotton mills. Because of this the following information may be of interest to those using silk or contemplating using it.

The size of silk yarn is expressed deniers. A denier being the weight of a skein 450 meters long expressed in deniers (5 centigrams). For approximate size, a 120 yard skein can be reeled and weighted in grains and the result converted into deniers by the use of the conversion table. Because of the variation in the filaments of the raw silk the size is expressed by indicating the range of deniers. For example, if the silk averaged 16½ deniers it would be a fair delivery for a 16-18 denier or a better delivery for a 15-17 denier.

The accepted regain for silk in this country is 11 per cent. Regain being the amount of moisture in the silk expressed in percentage based on the bone-dry weight of the silk. Raw silk is imported in this country in bales made up of small skeins and still contains the natural gum or sericin left in the silk by the silkworm.

Most of the mills find it of advantage to buy their silk thrown ready for use. The operation of throwing includes opening of the skeins, first weighing, examining; and for organizing, winding, first spinning, doubling, second spinning, reeling, examining, and winding on to cops when specified. For tram only one spinning is used. To aid in the throwing the throwster adds moisture and oil, and if not carried to excess is not objectionable provided the buyer of the yarn knows how much has been added. Throwsters sometimes, however, to make up for waste made and to gain additional weight, deliberately add an excess of moisture and oil so that the buyer of the yarn, unless aware of the fact, must take an appreciable loss in the shortage of the silk delivered. To determine the amount of sericin or gum in the silk a boil-off test has been developed which gives the percentage of real silk and percentage of other material. For some of the silks the following boil-offs may be accepted:

Yellow Silks		
French about	25%	
Italian about	24%	
White Silks.		
French about	22%	
Italian about	21%	
China about	21%	
China about	18%	
Canton about	23%	
Japan about	19%	

To find out how much oil or other loading material the throwster has put into the yarn, boiloff tests should be made on the yarn delivered and compared to the original boiloff for that quality of silk. In some recent tests made for one of our members it was found that cops marked 22-26 single-end Canton the boiloff averaged 27 per cent, another

lot marked 22-26 single-end Canton had a boiloff averaging about 31 per cent. These test results indicate the varying amount of loading material that may be added by the throwster. While the original boil-off for the second lot is not known if an average of 23 per cent is taken it would indicate that 8 per cent of loading material at silk prices. It undoubtedly economy for every mill using an appreciable quantity of silk yarn to have a boiloff test made either on every delivery or on occasional deliveries to insure that they are not buying an unnecessary amount of weighing materials.

Another test that should be made at the same time is a test for size to insure that the size ordered is being delivered and not something else.


Any member interested in further details of these tests can get the information by applying at this office. Bulletin of National Association of Cotton Manufacturers.

The Carver Loom.

For a number of years past Dr. Carver, an Englishman, has been experimenting with an entirely new head-motion for the jacquard loom. According to published reports he has been successful in eliminating the whole of the existing jacquard mechanism and has substituted an improved labor-saving, cost-reducing mechanism. It is not claimed that this loom will, at the present stage, produce every kind of figurer fabric, but it is stated that it has been successfully used on certain classes of goods, such as table damask. In place of the overhead jacquard, the harness and the punched cards he has substituted a thin metal plate divided into small insulated and non-insulated sections. The pattern to be woven is painted or printed on the metal and by means of electrically controlled thread governing devices, the proper warp end are lifted and lowered. The machine performs the shedding from an attachment to the loom itself, no part of which is out of reach from the floor. The shedding is divided into self-contained frames each controlling 40 threads suspended immediately above the warp and adjustable so that they can be arranged at any spacing across the loom according to the kind of cloth to be woven.

The saving in cost is said to be remarkable as there is no transference of the design to point paper, no cutting of cards, and there is a reduction in the time occupied in putting a new design in the loom. It is said that in a 6-4 damask loom the cost of putting in a new design is about \$780, and the time required from two to three months, whereas in the Carver Loom a new design can be put in in about 48 hours at a cost of about \$80.

In addition to the saving in the cost of putting in new designs it is claimed that due to the fact that the selecting movements have a speed only half that of the loom, the loom can be driven without difficulty up to 20 Opicks to the minute.



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THURSDAY, MAY 28, 1925

DAVID CLARK	Managing Editor
D. H. HILL, JR.	Associate Editor
JUNIUS M. SMITH	Business Manager

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Will Ten Millions Curtail?

IN response to the many letters that have come to us from manufacturers commending our efforts to secure prompt curtailment by cotton mills and asking us to take the lead in a concerted movement, we sent on Monday the following letter and also the pledge card.

Dear Sirs:

A prominent commission merchant recently said:

"If Southern mills would curtail ten per cent between this date and September 1st the cotton goods business could be put upon a profitable basis."

Augustus W. Smith, of Greenville, S. C., said in a recent letter:

"I think the trouble with the textile industry is the great selfishness displayed by all executives. Until we can get selfishness knocked out of our business and are willing to co-operate on all fundamental business principles the textile industry will not improve."

Are you willing to co-operate in a curtailment program designed to put the cotton manufacturing industry back upon its feet?

Buyers are systematically withholding orders and if we continue to pile up goods we must continue to sell them at prices below cost of production.

The selfish manufacturer wants everybody else to curtail while he operates, but we believe that there are enough men in the industry who realize that fundamental business principles make necessary some extensive and definite curtailment of output.

It is better to curtail now than to accumulate stock goods and have to operate for another year under a market controlled by buyers.

Will you not sign the enclosed pledge and return same promptly?

Your operatives will enjoy a week's vacation during the summer and are willing to do their part in putting the industry back upon a profitable basis.

If you intend to curtail more than one

week, as is the case with many mills, please note the fact upon the bottom of your pledge card.

Yours truly,

DAVID CLARK.

Pledge Card.

DAVID CLARK, 1925
CHARLOTTE, N. C.

Subject to a similar pledge being made to you by officials of mills aggregating 10,000,000 cotton spindles, we will curtail our normal operations to the extent of one week between June 1st and August 15th, 1925.

Company _____
By _____
Town _____
Spindles _____
Looms _____

We are asking that at least ten million spindles co-operate in a definite movement to prevent any accumulation of goods and yarns.

A great many mills are going to curtail far more than one week and the number that will curtail for one week will, in our opinion, exceed 10,000,000 spindles, but there is great need at this time of a very definite gesture which will show the buyers of cotton goods that mills of the South can and will co-operate with each other.

If we succeed in getting the signatures of mills representing 10,000,000 spindles it will have a considerable effect upon the cotton goods situation because the buyers of goods have been withholding orders in an effort to further depress prices and have felt that an accumulation of goods would make them secure.

If we fail in our effort to get the necessary signatures it will be due to the great selfishness of the cotton mill executives of the South as so

aply described by Augustus W. Smith.

We realize that many of those who do not wish to co-operate will hide behind an alleged fear of violating some Government regulation.

The Government at Washington has an entirely different attitude than formerly and there is not the slightest probability of any Government objection to the pledges which we ask.

It is one thing to combine to secure abnormal profits and quite another to combine to prevent losses.

Self preservation is the first law of nature and a man may legally kill another man when such an act is necessary for the protection of life.

It is absolutely necessary that the cotton manufacturing industry curtail output when an apparent overproduction is keeping the price of goods and yarns below the cost of producing same.

There is not the slightest danger of any Government agency seeking to punish cotton mills for making an effort to save their lives.

As a matter of fact, the Federal law has never been applied to anything except price agreements and there is none in this case.

We feel safe in saying that this effort to prevent further losses in the cotton manufacturing industry will have hearty approval at Washington.

In spite of all of this we know that some mills will evade signing the curtailment agreement by alleging a fear of Government interference, but we believe that there are enough manufacturers who see the necessity of this move to give us the signatures representing the necessary 10,000,000 spindles.

We believe that a severe curtailment this summer will remove from the market any surplus stocks of yarns and goods and that it will enable the industry to be in a healthy condition when the fall orders begin to come forward.

If the mills refuse to curtail they are blind to their own best interests.

Sees Need of Market Data

THE plan to form a statistical bureau to furnish all Southern mills with data relative to production, orders, stocks and other information which has recently been suggested by several leading mill men, is commended by J. W. Sanders, president of the Cotton Mill Products Company, operating five mills in Mississippi and Alabama. Writing to the Southern Textile Bulletin Mr. Sanders says:

"I note in your paper last week an article to Mr. Clark with reference to taking up the matter of getting mills report stocks of cloth on hand and other information along the lines of finishers' associations. I would like very much to see Mr. Clark take this matter up. I feel sure he could handle it successfully, and hope he can be induced to undertake this. Please ask Mr. Clark to write me about it. I

would be willing to contribute something towards the expense. I think something of this kind is the only hope of cotton mills now. If the mills would report stocks of various cloths on hand to some central agency and report their sales and prices at which sold, this information be given out weekly without giving the mill's name, would at least put all of us where we could handle our business intelligently. If we were then fools enough to go ahead and add to already enormous stocks of cloth and give them away—then I think there is no hope for the industry.

"I have been writing different ones and talking to all the mill men I come in contact with along these lines the past two years, and all I talk to and write to thoroughly agree with me, but we have not gotten anywhere. I would like to see Mr. Clark take this up vigorously, as he always does anything he undertakes, and put it over, and then would like for Mr. Clark to be in charge of it to see that it is properly handled and that the mills make proper and honest reports. I would be in favor of having some-one visit from time to time various mills and check up on their reports."

Urges Three Weeks' Curtailment

CLAUD GORE, treasurer of the Great Falls Manufacturing Co., Rockingham, N. C., is strongly in favor of curtailment of production to avoid stocking goods. He believes that if the mills would close for three weeks, the present situation would be corrected.

In a letter to the Southern Textile Bulletin this week, Mr. Gore says:

"I have just read your timely editorial, 'Curtailed Now,' in this week's issue of Southern Textile Bulletin.

"Your ideas are absolutely correct but I think three weeks' stoppage now would cure the evil. Week before last, we ran four days; last week five days; this week three days; next week, we do not expect to run any unless we get some business between now and Saturday night. We expect to pay all the help that remains on the village, part time and stayed closed up until we get some profitable orders. We have enough goods in our warehouse to complete all orders and we do not expect to put any stock in the warehouse that is not sold."

Another Child Labor Vote

SO complete was the defeat of the Federal Child Labor Amendment that almost everyone has lost interest in same.

We feel justified, however, in stating that following a recent rejection by the Florida Senate, the House in that State rejected by a vote of 72 to 6.

The action of Florida brought the number of States rejecting up to 34 as compared to 4 ratifications.

Personal News

James L. Byers is now superintendent of the Avondale Mills, Alexander City, Ala.

J. D. Fuller has succeeded J. H. Jackson as superintendent of the Ashland Knitting Mills, Ashland, Ala.

C. R. Roberts has resigned as superintendent of the Bowen-Crews Co., Athens, Ga.

J. E. Thomas has become superintendent of the Atlanta Hosiery Mills, Atlanta, Ga.

Willard Lewis has succeeded G. C. Welch as superintendent of the Riverside Mills, Augusta, Ga.

William Atkinson has been appointed superintendent of the Lowell Bleachery, South Griffin, Ga.

J. H. Wideman has become assistant superintendent of the Cochran Mill No. 2, Cochran, Ga.

H. G. Smith has succeeded John A. Perry as secretary of the Elm City Cotton Mills, LaGrange, Ga.

W. C. Clark has become manager of the Willincia Cotton Hills, formerly the Marietta Mills Marietta, Ga.

D. J. Faulkner is now superintendent of the Moorland Hosiery Mills, Moorland, Ga.

M. P. Petty is now overseer carding at the Orange Cotton Mills, Orangeburg, S. C.

B. L. Andrews has resigned as overseer carding at the Wyomojo Mills, Rock Hill, S. C.

J. M. Short, of Altavista, Va., has become overseer carding at the Wyomojo Mills, Rock Hill, S. C.

W. J. Mitchell has resigned as master mechanic at the Loray Mills, Gastonia, N. C.

A. L. Crumpton has succeeded A. L. Hardigree as secretary and treasurer of the Ashland Knitting Mills, Ashland, Ala.

John J. Wilkins of Athens, Ga., has been elected treasurer of the Crawford Cotton Mills, Crawford, Ga., succeeding J. Warren Smith.

J. D. Montgomery has succeeded W. D. Bradley as superintendent of the Larnell Cotton Mills, Whitehall, Ga.

J. E. Howell is now superintendent of the Thomson plant of the Lullwater Manufacturing Co., Thomson, Ga.

J. B. Holt has resigned as overseer of No. 1 and 2 carding at the Clover Cotton Mills, Clover, S. C., to become overseer carding and spinning at Pendleton, S. C.

John W. Arrington, president of the Union Bleachery, Greenville, S. C., has been elected a director of the Chamber of Commerce of the United States.

W. J. Hamilton has resigned as overseer night carding and spinning at the Wyomojo Mills, Rock Hill, S. C.

J. T. Quarles has been promoted from second hand to night overseer carding at the Mobile Mills Mobile, Ala.

J. D. Shirah, of Winnsboro, S. C., has become second hand in carding at the Orange Cotton Mills, Orangeburg, S. C.

W. T. Barnes, of Rock Hill, S. C., has become second hand in carding at the Kershaw Cotton Mills, Kershaw, S. C.

M. W. Boggs has been promoted from second hand to overseer of weaving at the Georgia-Kincaid Mills No. 2, Griffin, Ga.

O. W. Meeks has been promoted from loom-fixer to second hand in weaving at the Georgia-Kincaid Mills No. 2, Griffin, Ga.

J. B. Moore, of Spindale, N. C., accepted the position of overseer carding and spinning at the United Mills Co., Hickory, N. C.

E. N. Mayfield has resigned as overseer weaving at the Griffin Manufacturing Company, Griffin, Ga.

Joe Baxter has been transferred from loom fixer at the Georgia-Kincaid Mills No. 3, Griffin, Ga., to a similar position at the No. 2 plant of the same company.

—Mercer has resigned as master mechanic at the Erwin Cloth Mills, No. 3, Coolemees, N. C., to accept a similar position with the Loray Mills, Gastonia, N. C.

Jack Kilgore has resigned as overseer of weaving at the Griffin, Ga., position which he held for 15 years and accepted a similar position with the Griffin Manufacturing Company, of the same place.

Mattie Dartan has resigned as loom-fixer at the Georgia-Kincaid Mills No. 2, Griffin, Ga., to become second hand in No. 3 weaving at the Griffin Manufacturing Company, of the same place.

Alexander Manufacturing Co. Goods Displayed.

The Charlotte Chamber of Commerce has a window in which each week they display North Carolina-made goods.

This week they have an unusually attractive display of the wide sheetings and pillow cases of the Alexander Manufacturing Company, of Forest City, N. C.

Formerly a yarn mill, the Alexander Manufacturing Company added looms and have produced a very high quality of bed sheeting and pillow cases which are now highly regarded throughout the trade.

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MILL NEWS ITEMS OF INTEREST

Rome, Ga.—The affairs of the McLinn Mills have been placed in the hands of a creditors committee.

Laurinburg, N. C.—The Prince, Waverly, Scotland, and Dixon Mills are curtailing production to three days a week.

Ozark, Ala.—The Ozark Cotton Mills have been taken over by the First National Bank, of Birmingham, Ala., as trustee. The plant is now closed.

Jackson, Ga.—Lockwood, Greene & Co., engineers of Atlanta, Ga., and Boston, Mass., have been retained by the Pepperton Cotton Mills to render complete engineering services on a new steam plant for their mill.

Cornelius, N. C.—The 160 new looms being installed in the Cornelius Cotton Mills are Nordray looms, built by the Hopedale Manufacturing Company, Milford, Mass., and are not the Draper looms from the Draper Corp., as recently reported through error.

Charlotte, N. C.—Operations at the Stewart Mills are expected to begin by the latter part of June, according to W. R. Talliaferro Jr., head of the company. The plant formerly occupied by the Belbro Mills has been leased and 50 looms for weaving silk and cotton and silk mixtures will be installed.

Middleton, Ga.—The Beaver Cotton Mills has been organized here to take over the plant of the Pitts Cotton Manufacturing Company and will operate it on cotton yarns for the electrical, mop and carpet trades, running carded yarns 2s to 6s and possibly 8s to 12s. The mill will be operated by Frank W. Van Ness and associates, industrial engineers, of New York, with Frank G. Shinn as resident manager.

Greenville, S. C.—Contract to build 50 model operative houses for the Judson Mills adjacent to the auxiliary plant of the company, which was formerly the Shambow Shuttle Company's home here, was awarded to J. Archie Willis & Co., contractors of Greenville. The development will represent an investment of about \$65,000.

Work on building the home will begin about the middle of August, it was said. They will be of modern design and equipped with plumbing and electrical fixtures. Each will house one family.

When completed they will be occupied by employees of the auxiliary plant. This building is now being equipped with machinery for silk mixture weaving and is to be enlarged at once. It will operate as an auxiliary to the Judson Mills here, of which B. E. Geer, of this city, is president.

Dalton, Ga.—Lockwood, Greene & Co., engineers of Atlanta, Ga., and Boston, Mass., have been retained by the Dalton Hosiery Mills to render engineering services on an extension to their present plant.

Corinth, Miss.—The Corinth Cotton Mills, organized here by J. D. Kennedy, general manager, have secured a building and are installing machinery for a daily capacity of about 2,000 pounds of 4s yarns.

Clinton, Tenn.—Construction work on the new plant of the Magnet Knitting Mills will be started at once. The mill will cost \$300,000 and will produce full-fashioned hosiery. The building will be two stories and basement, 100x250 feet. J. E. Sirrine & Co., of Greenville, S. C., are the engineers.

The Magnet Knitting Mills now operate one mill here and another at Coal Creek. W. R. Toms, secretary, has gone to Philadelphia and Reading to purchase the equipment.

Fayetteville, N. C.—Schedules filed in the U. S. District Court at Raleigh by Corley Mills, Inc., recently petitioned into bankruptcy, show liabilities of \$228,089, consisting of State and county taxes, \$3,600; secured claims, \$16,322; and unsecured claims, \$208,167. Assets of \$584,371 are as follows: Real estate, \$60,730; mill buildings, \$117,900; machinery and equipment, \$338,569; tenements, \$55,210; trucks, \$1,545; supplies repair parts and pulleys, \$2,425; cash on hand, \$87; cash in banks, \$1,660; open accounts (good), \$599; open accounts (uncollectible), \$1,738, and sinking fund, \$3,909.

Anniston, Ala.—Announcement has been made here of the purchase of the plant and business of the Anniston Knitting Mills Company by A. B. W. Pruet, president of the Anniston National Bank at a price said to have been \$206,000. The deal was consummated after a series of conferences between E. L. Field, president and general manager of the knitting mills company, and Mr. Pruet. When operated at capacity the mills employ 250 workers and have a payroll averaging between \$1,500 and \$2,000 weekly. The plans of the new owners provide that there shall be no let down in operation or curtailment of forces. Mr. Pruet announced that the mill would continue operations at full capacity under the management of Mr. Field.

Spartanburg, S. C.—The capital stock of the Beaumont Manufacturing Company at Beaumont will be increased from \$400,000 to \$600,000, according to authority granted the local concern by W. P. Blackwell, Secretary of State. Petition for an increase in the capital stock had been made by the officials of the textile plant on the ground that the present capital stock is insufficient and that an increase would be beneficial to the stockholders.

A resolution voting to increase the capital stock was made at a meeting of the stockholders May 19, after the directors had previously passed a resolution to that effect. The larger capital stock will be divided into 6,000 shares of the par value of \$100 each. Of that number of shares 2,000 shares will be common stock and 4,000 shares shall be first preferred stock, according to

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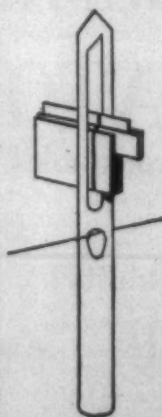
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the plans of the officers. The increase in the capital stock will be made by the issuance of 2,000 shares of first preferred stock of the par value of \$100, it was cited.

Dividends at Spartanburg

Spartanburg, S. C.—Directors of four Southern cotton mill have voted the regular semi-annual dividends payable July 1. Total distribution amounts to a little over \$400,000, of which the largest single payment is \$170,000 by the Pacolet Manufacturing Co.

Directors of the Drayton Mills declared a dividend of 3½ per cent on the \$350,000 of preferred stock. No action was taken on the com-

The Monarch Mills at the annual meeting declared the regular 3½ per cent dividend on the \$3,000,000 common stock and also 3½ per cent on the \$1,000,000 preferred stock. These are the same payments as for the previous half year period.

A 5 per cent dividend was declared by directors of the Pacolet Manufacturing Co., on the \$2,000,000 common stock and 3½ per cent on the preferred stock. This is the same rate as paid six months ago.

At a meeting of directors of the Spartan Mills, a 4 per cent dividend was declared which is the same as distributed Jan. 1.

Stockholders of the Whitney Manufacturing Co., again failed to act on the dividend. A year ago the company paid 3½ per cent on the common stock.

Textile Courses for Mill Men

Courses in yarn manufacturing, loom fixing, designing, fabric analysis and textile calculations will be offered during the summer school which will be held at the North Carolina State College from June 15 to July 24.

The courses will be given in the Textile School, and the subjects will be arranged to cover as much ground as possible and in practical manner. In this way a man who wishes can take any special work; for example, on a card, or in fancy weaving, loom fixing or designing such as leno. In this way he can specialize on any subject.

Special hours will be assigned for the study of each subject, but the full day will be spent in the Textile School applying the principles given in the class room.

The cost of the whole course, which will last six weeks, will be

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\$48.00. This includes board, room, registration and tuition.

The work will be so arranged that a person can spend the whole or a part of the six weeks as he finds convenient and necessary.

For further information, address Thomas Nelson, North Carolina State College, Raleigh, N. C.

April Spinning Shows Increase

Washington, May 21.—Cotton spinning activity increased slightly in April, as compared with March this year and was much more marked than in April a year ago, the Census Bureau's monthly report today showed. Spinning activities reached 100 per cent of single shift basis capacity for the first time since June, 1923.

Active spindle hours for April totaled 8,518,142,398, or an average of 225 per spindle in place, compared with 8,599,440,113, or an average of 227 for March, this year, and 6,769,711,331, or an average of 179, for April last year.

Spinning spindles in place April 30 numbered 37,804,653, of which 33,412,650 were active at some time during the month compared with 37,809,876 in place March 31, this year, of which 33,225,182 were active at some time during the month, 37,745,967 in place April 30, last year, of which 31,871,665 were active at some time during the month.

The average number of spindles operated during April was 37,799,611 or at 100.0 per cent capacity single shift basis compared with 37,670,580 or at 99.6 per cent capacity in March this year, and 30,177,468 or at 79.9 per cent capacity in April last year. Cotton consumed during April totaled 597,104 bales of lint and 59,036 of linters, compared with 582,674 and 58,845 of linters in March, this year, and 478,583 of lint and 42,080 of linters in April, last year.

Carpet and Rug Exports From Persia.

Exports of carpets and rugs from Persia during 1924 showed a considerable increase over preceding years and amounted to 10,149,152 pounds, valued at \$10,502,406.

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Winding and Finishing Viscose Yarns

(Continued from Page 21)

is the cell drier, flat steam-heated cells arranged in tiers with free running rolls at the ends of the cells to allow for the fabric being passed through at the minimum tension.

The ordinary wet finishing tins are suitable for some cloths, but, where a free full handle is required, they are not generally desirable.

Viscose weft cloths usually require more width allowance from the grey to the finished cloth than cotton or silk weft goods of a similar character. The best results are obtained by allowing from 7½ to 10 per cent difference between the grey and finished width at the stenter.

To soften and smooth some cloths cold calendering at a medium pressure is often a very useful final finish; it removes hardness and improves the cover. Hot calendering is not generally suitable for viscose cloths except for highly glazed finishes, such as "Cire" finish, where the friction calender is employed. Lining satins and similar fabrics may sometimes be improved by a light Schreiner calender finish.

Fabrics of simpler construction,

such as viscose stripe shirtings and voiles, may be given the ordinary stenter finish, but every care must be taken to avoid undue strain. This latter precaution is probably the most important one at this and every process, and cannot be too strongly impressed upon finishers. A little sacrifice in finished length will be found to be especially advantageous in this class of fabric, but if the goods have been woven and treated throughout without undue tension they do not present any difficulty to the experienced finisher.

The ordinary mercerizing methods are not applicable to viscose and cotton cloths. Caustic soda treatment at the strength usually employed in mercerizing tends to dissolve the viscose and to disintegrate it very rapidly. A very few moments of immersion in caustic liquor at ordinary mercerizing strength is sufficient to deteriorate the fibre to such an extent as to render it unserviceable for ordinary wear. Dilute solutions of caustic soda, such as the 2 deg. Tw. used in the scouring, do not cause any deterioration, but with the use of stronger solutions the destructive properties increase pro ratio to the strength of the solution up to about 20 deg. Tw. At this strength the deleterious action is at its maximum, and stronger solutions do not

appear to affect the fibre to quite the same extent. It is necessary to find new methods of mercerizing to overcome this defect, and some success has already been achieved. In the near future this should open another big field for the use of viscose, as the fibre is eminently suitable for giving added brightness and effect to the large range of piece-mercerized fabrics already on the market at a much cheaper cost than silk.

Embossed finishes require very special attention to prevent the cutting of the fibre by the roll, but as this type of finish is generally in the hands of specialists in the line, who are by this time thoroughly cognizant of the danger, it is not of general interest to the ordinary textile finisher.

It is, of course, obvious that these remarks on finishing can only be considered as a general guide, and it is not intended that the methods proposed should be adhered to so as to exclude experiment in other directions. Viscose is gradually being more and more used in every possible kind of material, and having studied the characteristics of the fibre the finisher will have no difficulty in adapting and combining his processes to give the best result in a variety of fabrics.—E. Smith in Manchester Guardian.

Curtilment Urged for Cotton Trade

At a meeting of the National Council of American Cotton Manufacturers held in New York the following resolution was adopted: "That in the opinion of the National Council of American Cotton Manufacturers the only prompt and efficient remedy for the present condition of the cotton industry is in the curtilment of production."

The council is made up of representatives of the American and National Cotton Manufacturers' Association.

Those present included the following:

Frank Hale, of Saco-Lowell Shops; Stuart W. Cramer, president of the Cramerton Mills, Cramerton, N. C.; J. P. Gossett, of Anderson, Williamstown and Calhoun, S. C.; Ward Thoron, treasurer of the Merimack Manufacturing Company, Lowell, Mass.; W. E. Garcelon, of the Arkwright Club, of Boston; John Rousmaniere, of Lawrence & Co.; Lee Rodman, president of the Ridley Watts & Co.; Richard Reeves, of Hunter Manufacturing & Commission Company; Thomas W. Slocum, of Minot, Hooper & Co.; Harry C. Meserve, secretary of the National Cotton Manufacturers' Association.

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Robert Amory, of Amory, Browne & Co.; Morgan Butler, of the Butler Mills, New Bedford and president of the National Cotton Manufacturers' Association; W. Frank Shove, of the Pocasset Manufacturing Company, Fall River; R. B. Lowe, president of the Parkhill Manufacturing Company, Fitchburg, Mass.; Albert Green Duncan, of Boston; J. Arthur Atwood, treasurer of the Wauregan Co., Wauregan, Conn.; C. F. Broughton, treasurer of the Wamsutta Mills, New Bedford.

Other matters discussed covered the whole range of the cotton goods situation. Among the subjects taken up was one of collecting cotton goods statistics in a national way to serve as a closer guide to production and merchandising.

Liverpool to Use Universal Cotton Standards

The Liverpool Cotton Association has cancelled its notice of withdrawal from the universal cotton standards agreement and has signed the supplemental agreement providing for the use of the universal standards, according to cable advice from Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, United States Department of Agriculture. This action on the part of the Liverpool Association assures the use of universal standards in international trade. The cotton committee of the Federation of Master Cotton Spinners' Association, Manchester, which is not a party to the supplemental agreement, passed an unanimous resolution recommending that the Federation take action similar to that taken by Liverpool.

Amendments looking toward the legislation of the agreements and various suggestions to insure the smooth working of the whole scheme were unanimously approved at the conference of the signatories to the agreement held at London, May 20. The proposal providing for a two-year standard instead of requiring that the standard be prepared annually was also unanimously approved, and it was agreed that the next meeting for the preparation of key sets be held in March, 1927.

Cotton Goods Exports Show Gain

Washington—For the second consecutive month, exports of cotton cloth in April registered a 60 per cent increase, compared with the corresponding month of 1924, according to preliminary statistics announced by the Department of Commerce. As in March, every character of cotton cloth shared in the improvement.

Exports of other cotton manufactures also increased as compared with April of last year, while shipments of raw cotton continued their steady advance.

Exports of other cotton manufactures last month were valued at \$14,284,000, compared with \$10,299,000 in April, 1924, the statistics show.

Cotton cloth exports in April totalled 52,377,000 square yards, valued at \$8,244,000, compared with 32,621,000 square yards valued at \$5,654,000, in the same month last year.

Cotton duck shipments totalled 1,173,000 square yards, valued at \$477,000, last month, compared with 674,000 square yards, valued at \$346,000 in April, 1924.

Other Cotton Cloths.

Of other cotton cloths, exports of unbleached totalled 9,895,000 square yards, valued at \$1,206,000 compared with 7,155,000 square yards, valued at \$927,000; bleached, 9,432,000 square yards, valued at \$1,388,000, compared to 6,065,000 square yards, valued at \$967,000; printed, 12,557,000 square yards, valued at \$1,648,000; compared to 7,111,000 square yards, valued at \$1,019,000 piece dyed; 10,651,000 square yards, valued at \$1,953,000; compared to 6,743,000 square yards, valued at \$1,415,000; and yarn dyed, 8,666,000; compared to 4,370,000 square yards, valued at \$978,000.

Yarn and Raw Cotton.

Exports of carded yarn almost trebled, compared with April, 1924; while shipments of combed yarn doubled. Thread exports decreased. Cotton hosiery increased slightly.

April shipments of raw cotton were 472,555 bales, valued at \$60,904,455; compared to 320,774 bales, valued at \$48,590,718, in the same month last year.

U. S. Imports of Specified kinds of Cotton Cloth.

United States imports of specified kinds of cotton cloth through the customs districts of New York, Boston, Philadelphia, Chicago, and San Francisco during April, 1925, totalled 8,252,837 square yards, valued at \$1,914,295, compared with 14,072,484 square yards, worth \$3,074,368, for the previous month and 14,631,496 square yards, with a value of \$2,939,216, during March, 1924. The total for April, 1925, is the lowest figure recorded since the tabulation of these imports was begun in March, 1924. The previous low was registered in August, 1924, and the high mark in December, 1924.

British Trade in Silk Manufactures.

Imports of silk manufactures into Great Britain during the first quarter of 1925 showed an increase of £2,600 over the aggregate value for the corresponding period of 1924. Exports for the same period decreased by about £61,000 to an aggregate of £414,678. Imports of thrown silk amounted to 38,800 pounds, compared with 336 a year ago—the average price rising slightly. Imports of spun silk yarn also increased extensively but the average import price per pound was exactly one-half that of last year. Piece goods imports showed an increase of 38 per cent in quantity and 27 per cent in value. Receipts of this class from the United States totalled 102,409 square yards, compared with 64,304 for the 1924 period. — Alfred Nutting, Consular Clerk, London, April 29.

The Great Spot Cotton Basin

States east of the Mississippi produced 2,467,000 bales of cotton in 1873, practically all of it being shipped north or exported.

Half a century later production totalled 4,369,000 bales. And southern mills consumed all but 360,000 bales, which were shipped north or exported.

West of the Mississippi production is even heavier and the bulk of the huge crop is exported through Galveston and Houston. Hence the supply at this great concentration center far exceeds that at any point in any land.

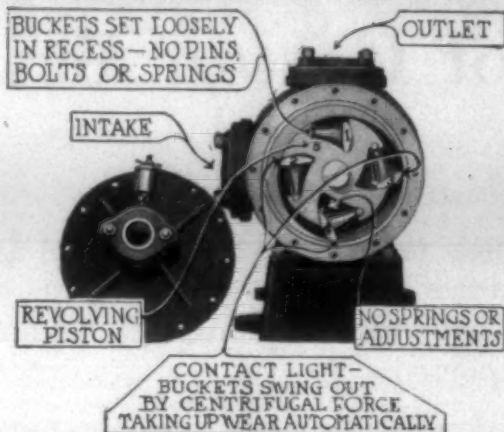
Texas or western cotton is represented by the contract of the Chicago Cotton Market. Delivery is made at Galveston or Houston. Chicago quotations represent world values for cotton.

The Chicago contract offers many advantages to merchant, shipper and spinner. Write the Cotton Registrar, Chicago Board of Trade, for full information.

Literature descriptive of the Chicago Board of Trade, the world center of grain trade, may also be had on request.

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THOMAS GRATE BAR CO., Birmingham, Ala.

Problems Connected With Oil Spraying Raw Cotton

(Continued from Page 14)

makes it even more difficult to enable the size mixture to penetrate the yarn, or whether there is no appreciable difference.

It would seem logical that an addition of one percent of oil to the four per cent which is already present (in other words, increasing the protective wax and oil film twenty-five per cent) must result in greater repulsion to size mixtures. In fact, in view of this probable increase in the protective film against moisture absorption by the fiber, one might assume that there would be a big reduction in the efficiency of humidification.

In discussing the merits and faults of the various oils which might be used for the purpose of spraying cotton, I wish to first suggest that any petroleum oils or mineral oils would no doubt repel the size mixtures more than more easily emulsified oils. We might try to eliminate what would seem to be the most satisfactory lubricant to use for the purpose of spraying, and the ideal properties required to be possessed by such an oil, admitting at this juncture that such lubrication be useful and necessary in the earlier stages of cotton manufacture.

I believe that the ideal properties for such an oil would be as follows:

1. It must lubricate efficiently.
2. It must not repel moisture.
3. It must allow penetration of the size.
4. It must not defeat the efficiency of the humidifiers.
5. It must be perfectly stainless.
6. It must be saponifiable and easily removed by the bleacher.
7. It must not affect dyeing.

I do not believe that there are any petroleum oils, vegetable oils, nor animal oils that will conform to these requirements entirely.

It might be that the process of oil spraying could be utilized not only to lubricate the cotton, but also to assist in the penetration of the size mixture in the later process of sizing, by using a sulphonated oil for the lubricant. Sulphonated oil has very lubricating qualities, and would undoubtedly function equally as well in this direction as any other oleaginous lubricant. At the same time, it would not repel moisture from the humidifiers (it being soluble in water and to a certain extent hygroscopic), and when the yarn reached the size box, it would readily mix or emulsify with the size, and not repel penetration. In fact, its presence in close contact with the already present natural wax might even facilitate the emulsification of that wax, and render it more open to penetration by the size mixture. Thus it might serve two purpose, lubrication in the manipulations of spinning, and as an assistant to the size mixture in emulsifying the natural wax of the cotton and facilitating penetration.

Further, when the cloth prepared from this cotton reached the bleacher and finisher, the presence of the sulphonated oil as the lubricant would not be detrimental in remov-

ing the impurities preparatory to bleaching, in that it would be readily removed in the kiers. Also there would be no difficulty to be met with if the fabrics were to be dyed.

I have proceeded rather more rapidly than I intended, it having been my intention to say a few words regarding the various oils, and their affect in such a process as we are discussing. The oils which have been and are still being used in oiling wool can be divided into two classes:

1. Unsaponifiable.
2. Saponifiable.

In the former classification may be included mineral oils, or petroleum oils, other unsaponifiable hydrocarbon oils, and some natural unsaponifiable waxes. In the latter classification and animal, fish and vegetable oils, and these latter can be subdivided into three further divisions:

- A1. Drying oils.
- A2. Semi-drying oils.
- A3. Non-drying oils.

In discussing class 1, unsaponifiable oils or mineral oils, it may be said that as lubricants these oils are invariably satisfactory. Also in applying an oil of this class in a finely divided state to textile fibers there no danger of oxidation and subsequent heating, followed by spontaneous combustion, no matter how much of the oil be present in the fiber.

I might state here, that in the quantity in which this oil spray is at present suggested to be used—one per cent on the cotton—there is little or no danger of heating and spontaneous combustion, no matter what oil be used, there being insufficient present to cause such a reaction.

These two advantages in the use of unsaponifiable petroleum oils are very much outbalanced by the disadvantages of their being very repellant to moisture, and that when arriving at the size box would be more difficult to emulsify than would other saponifiable oils. The greatest disadvantage in the use of mineral oils, and in fact, the reason which should prohibit their use altogether is that it is practically impossible to remove them at the bleachery. This objection also applies to its use as a size ingredient. Being unsaponifiable, it is unaffected by the detergents used in the bleachery, unless a very vigorous treatment be given, which tenders the fabric considerably. Also there is great risk of mineral oil stains, and when the fabric is to be dyed the dye may not take evenly due to the presence of this oil. Then the presence of this unsaponifiable oil in addition to that contained naturally by the cotton, increases the difficulty of removing these natural waxes, and makes emulsification more or less impossible. I believe that mineral oil can only be safely used on goods which are to remain unbleached.

Passing to the oils in Class 2, the saponifiable oils, it may be first said that there is little or no risk to be run in regard to being unable to remove them, as the detergents saponify them, or thoroughly emulsify them, and they are easily washed out. In fact, they assist,

though not as much as would sulphonated oil. Oleines, or pure fatty acids, are also used to lubricate wool on account of the ease of saponifying them with weak alkalis, and thus washing them out.

A disadvantage in the use of the majority of vegetable oils is that when they are in a fine state of division (as they would be when sprayed on cotton fiber) and exposed to the air they rapidly become rancid, or absorb oxygen, cause heating, and fire spontaneously. The rancidity would be objectionable from the point of view of the odor, while the firing would be absolutely dangerous. As previously stated, the amount of oil necessary to cause the latter would have to be considerably more than one per cent on the cotton, no matter what kind of vegetable oil were used.

In using animal and vegetable oils and fats in sizing, and though they are in a fine state of division on the yarn, rancidity is prevented by the protective film of starch, which prevents the contact of air with the finely divided oil or fat, and thus prevents the occurrence of the rancidity. Oxygen is necessary for the start of the latter.

Sprayed on the raw cotton, and with no protective air-tight film of starch rancidity would set in, and the odor at least would be very objectionable, apart from other bad effects.

The sub-divisions of these saponifiable oils was made for the reason that some of the oils are more liable to oxidize and cause heating than others. Sub-division A1, under which is classed the drying oils, has a typical example in linseed oil, and which is undoubtedly the best known drying oil. It has the property of rapidly absorbing oxygen and drying into an impervious film, which property is made use of by its use in the manufacture of paints.

Such oils as linseed, when in contact with fibrous material, will rapidly oxidize, and if in sufficient quantity will generate enough heat to burst into flames. Of course, one per cent on the cotton would be insufficient to cause this, but nevertheless, such oils would be dangerous to have in contact with cotton in a mill. This eliminates drying oils as being useless for the purpose of oil spraying.

Sub-division 2, the semi-drying oils can be eliminated for the same reason, their having similar properties in a lesser degree to the drying oils. A typical example of a semi-drying oil is cottonseed oil.

Some of the oils classed under sub-division 3, the non-drying oils, of which olive oil, peanut oil, tallow, tallow oil, and lard oil are examples

would probably be very satisfactory for oil spraying, an dprobably little rancidity would be met with. However, no doubt their price would be prohibitive. While that would all be easily and perfectly removed in the bleachery, there would still be the repellance of these oils to the size mixture, although they would emulsify more readily than would mineral oils.

Of the sulphonated oils, I believe that a less viscous sulphonated oil than castor oil, such sulphonated corn oil or peanut oil would be most advantageous to use in that they would spray more efficiently and be easier to handle in every way.

Returning to my suggestion regarding the use of sulphonated oil, I believe that this would be the ideal lubricant to use, not necessarily in its most concentrated form, but possible as a fifty per cent solution, when it would be sufficiently limp'd to spray efficiently.

Where one per cent of 100 per cent oil had previously been tried two per cent of this 50 per cent solution could be sprayed on, the greater volume ensuring more even and thorough distribution through the raw stock. Some of the moisture contained in this fifty per cent solution of sulphonated oil would probably evaporate after having been deposited on the fiber, leaving a more concentrated oil, but nevertheless, there would be no drying in the sense that linseed oil dries, or formation of a film that would be repellant to moisture.

There would be no detrimental effect to humidification, the oil being hygroscopic to a certain extent, would probably enable the cotton to absorb even more than its quota of moisture. Its lubricating qualities would be as good as those of any other oils.

When the prepared yarn reached the size box for sizing, there would be no waterproofing effect, no repulsion of the starch mixture, and the sulphonated oil would readily intermix with the size mixture, and to some extent probably emulsify the natural waxes, thus probably giving more efficient adhesion of the starch mixture to the surface of the fiber.

Then, on arriving at the bleachery there would be no difficulty in its removal along with the sizing ingredients, before bleaching. Its presence, in fact, would facilitate the removal of the other size materials in the yarn.

In conclusion I must admit that I believe that there are very great possibilities in this oil spraying process, and that sulphonated oil will be found to be the most satisfactory and safe lubricant to use for this purpose.

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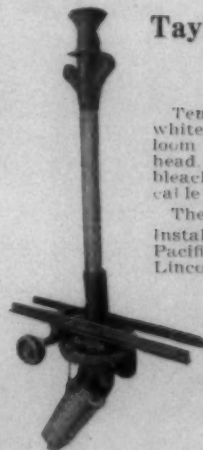
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Can Be Applied to Any Make of Revolving
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The object of this appliance is to remove motes, leaf, short fibres and foreign substances from the cotton before it reaches the Cylinder and Flat Clothing.

The removal of these foreign substances from the cotton before it reaches the Cylinder and Flats increases the life of the Card Clothing.

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This Device has no high speed parts to wear, it is simple in construction and operation, and consequently requires very little attention.

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Its

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Results will convince you.*

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Atlanta, Ga.

U. S. Retains Cotton Supremacy

(Continued from Page 12)

the boll weevil account for the remaining fluctuation in total yield.

Officially, the Department of Agriculture has nothing to say this year about the contemplated probable acreage, because a law passed at the 1924 session of Congress prohibits it from making "intentions to plant" reports in regard to cotton. Private reports, however, estimate that the cotton acreage will be increased about 4 to 6 per cent over that of 1924.

What the boll weevil will do in 1925 is important. There is an impression among farmers that the temperature of the past winter has been sufficiently low to control the boll weevil. This view is not held by many experts in the Department of Agriculture. Careful studies indicate that these temperatures have not been low enough, and that violent fluctuations of temperature have not occurred often enough to prevent serious damage the next season in case the rainfall should be abundant during the coming summer. Apparently very cold winter weather kills many weevils, but the insects breed so rapidly in wet summer weather that their winter casualties may be discounted to some extent.

Studies made by the department in March indicated that about an average number of weevils would probably emerge from hibernation in the Southern States. From Alabama westward, however, a lighter infestation was expected to prevail, on the average, with the possible exception of the extreme Gulf Coast regions. Later studies upheld these conclusions. Records indicate that up to April 15 the average total survival of boll weevils near College Station, Tex., in the years 1906-1907-1908 was 5.2 per cent. The survival which had emerged by April 15 this year was 4.6 per cent. These figures were obtained by putting weevils in cages and observing the number that survived the winter. They indicated that the survival was at least approaching a normal one.

North Carolina Labor Laws Are Enforced

(Continued from Page 7)

that for every child under 16 years of age employed in tobacco factories, there are one hundred and sixteen adults, and instead of increasing the number of children has materially decreased.

Investigations of 1925 indicate that less than one-half of the violations, under 14 years, previously reported, will be found. The irregularities and violations, however, of 14 and 15-year-old children indicate about one-third less than previously reported. This would suggest that the public is becoming educated and acquainted with the regulations and requirements of child labor and that they are abiding by its provisions.

It can be stated without fear of contradiction that no State has

made more deliberate plans or carried them to a more successful conclusion in securing the facts concerning the children employed in its borders than North Carolina. The survey of children 14 and 15 years of age, ascertaining the number, sex and color, and vocations in employment, was completed first. In August a survey was completed of the boys 12 and 13 years of age, employed during vacations with the same results. Immediately following the amendment of the child labor law, another survey was made which determined that the few boys employed in manufacturing and mechanical industries had been removed according to this act, and the facts obtained have been carefully tabulated and published.

Why these statements are made tending to disparage the industrial situation in North Carolina, it is difficult to say. No State has developed a more effective program of child labor enforcement than this State now has under the present form of administration.

Constructive criticism is always helpful. Criticism based upon error or distorted reports is destined to defeat the very ends of any good legislation. Persons responsible for the reckless dissemination of such material will certainly be demanded to present facts or show their inconsistency to the cause they pretend to champion.

Italian Exports of Wool Cloth Increasing.

The wool manufacturing industry of Italy centers around the city of Biella. There were 17 per cent more spindles in this city in 1924 than in 1921 and 4,350 kilos (kilo equals 2.2046 pounds) of combed yarn were produced. This amount was approximately one-third of the total output of Italy.

New Du Pont Dye.

The Dyeing Department of E. I. du Pont de Nemours & Company has just placed on the market a new chrome green, known as Pontachrome Green G, to take the place of Pontachrome Green GLO, which will be discontinued. It is bluer than Pontachrome Green GLO, but very similar in properties as well as in strength. Pontachrome Green G can be applied as a straight color or can be used in combinations to produce browns, greens or olives, and especially in mixtures to produce blacks that leave silk effects unstained.

Heavy Losses on Gingham.

As an example of how serious conditions were during 1924 for the cotton mills, the statements of two large Eastern gingham mills just published, well illustrate against what unfortunate conditions they struggled. One of these mills of about 150,000 spindles, operated for the full year at an average of 33 per cent of capacity—the other, a mill of about 115,000 spindles, at 44 per cent of capacity. Needless to say, the loss in each case was in the neighborhood of \$750,000.00.—Market Comment.

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GREENSBORO

Colored Goods Association Meets

A meeting of the Colored Goods Manufacturers' Association was held at Greensboro, N. C., on Tuesday night. The meeting was held primarily to consider plans for making an elaborate display of finished cotton goods at the Carolinas Exposition in Charlotte next September. It is planned to focus attention on the South, especially the Carolinas. In addition to a mere exhibit of goods the idea will be further carried out by a display of dresses made from fabrics produced in this section and displayed by living models.

Invitations were extended to a number of prominent manufacturers who are not members of the Colored Goods Association. Jobbing interests were represented by Norman H. Johnston, secretary of the Southern Wholesale Dry Goods Association. The meeting was also attended by a delegation of leading textile machinery men from Charlotte.

Cotton Cloth Imports Decline

Washington, D. C.—Imports of cotton cloths registered another sharp decline during April, and for the first time in many months even receipts of unbleached shared in this decline, according to figures released by the Department of Commerce.

Imports of cotton manufacturers last month were valued at \$6,456,000, compared with \$3,147,000, in April, 1924. Cotton cloth imports aggregated 9,639,000 square yards, valued at \$2,377,000 compared with 15,515,000 square yards, valued at \$3,412,000 in the same month last year.

For Ten-Month Period.

For the 10 months ended with April total cotton cloth imports aggregated 143,486,000 square yards, compared to 174,987,000 in the corresponding period last year.

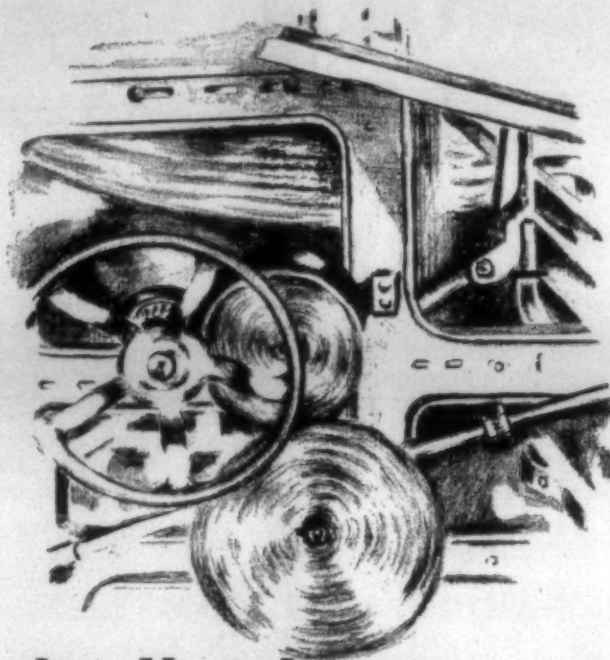
While other cotton cloths have been decreasing for some months, April is the first month to disclose a decline in imports of the unbleached, which last month were 6,428,000 square yards, compared to 9,140,000 in April, 1924.

Imports of bleached last month were 493,000 square yards, compared to 650,000, and of the colored, 2,718,000 square yards, compared to 5,723,000.

Cotton Gloves and Hosiery.

Imports of cotton gloves declined to 57,000 dozen pairs from 111,000 dozen, and cotton hosiery declined to 39,000 dozen pairs from 52,000 dozen. Laces and embroideries also declined.

Domestic exports of wool manufactures last month were valued at \$464,000, compared to \$463,000 in April, 1924, the statistics of the department show. Exports of silk manufacturers were valued at \$1,567,000, compared to \$1,072,000. Exports of rayon manufacturers were valued at \$861,000, compared to \$516,000.



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Think twice before you answer "yes". If you are not placing your weavers on a strictly competitive basis—where they know each hour the record of the previous hour—your output is not 100%, simply because you do not offer them an incentive to display their natural American trait of beating the other fellows production, as well as beating their own previous record.

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on every loom records, pick by pick, the output of every operator. The figures are indisputable, the weaver knows it and knows that you know it.

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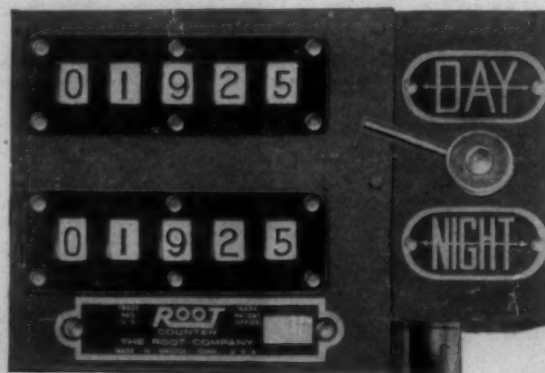
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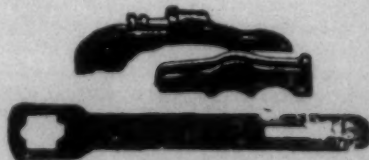
Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

Page	Page
—A—	—L—
Allis-Chalmers Mfg. Co. —	Ladew Edward R. Co. — 21
Alabama Power Co. — 15	Lane, W. T. & Bros. — 37
American Laundry Machinery Co. —	Lestershire Spool & Mfg. Co. —
American Moistening Co. — 27	Langley, W. H. & Co. — 40
American Textile Banding Co. —	Leslie, Evans & Co. — 40
Amory, Browne, & Co. — 40	Landers Bros. — 47
Arabol Mfg. Co. —	Link-Belt Co. —
Arnold, Hoffman & Co. —	Lockwood, Greene & Co. — 12
Ashworth Bros. — 46	Liberty Mutual Insurance Co. — 26
Atlanta Brush Co. —	Lowell Shuttle Co. —
Atlanta Harness & Reed Mfg. Co. — 27	
—B—	—M—
Bahnson Co. — 1	Macrodi Fibre Co. —
Billington, Jas. H. Co. — 38	Marston, Jno. F. Co. — 41
Bancroft, Jos. & Co. —	Marble-Nye Co. — 25
Barber-Colman Co. — 30	Mathieson Alkali Works —
Barber Mfg. Co. — 34	Mauney Steel Co. — 41
Blackmer Rotary Pump Co. — 30	Memphis Cotton — 39
Borne, Scrymser Co. —	Morrow Machine Co. — 36
Bosson & Lane — 47	Metallic Drawing Roll Co. — 43
Brown, David Co. — 28	Metz, H. A. & Co. — 47
Bradley, A. J. Mfg. Co. — 41	Mississippi Cotton — 39
Brown St. Onge Co. —	Moreland Sizing Co. — 47
Butterworth, H. W. & Sons Co. —	Morse Chain Co. — 47
—C—	Mayview Manor — 18
Carrier Engineering Corp. —	Mossberg Pressed Steel Corp. — 42
Carter, A. B. —	Myles Salt Co., Ltd. — 33
Catlin & Co. — 41	
Charlotte Mfg. Co. — 2	—N—
Charlotte Leather Belting Co. —	National Aniline & Chemical Co. —
Chicago Belting Co. —	National Ring Traveler Co. — 41
Chicago Board of Trade — 29	Newburer Cotton Co. — 39
Chicago Fuse Mfg. Co. —	N. Y. & N. J. Lubricant Co. — 22
Cocker Machine & Foundry Co. —	North Carolina Cotton — 43
Clements Mfg. Co. — 31	Norwood Engineering Co. — 46
Collins Bros Machine Co. —	
Corn Products Refining Co. — 2	—P—
Courtney Dana S. Co. — 25	Page Fence & Wire Products Assn. — 31
Crompton & Knowles Loom Works — 3	Paige, Schofield & Co. — 41
Crump, F. M. & Co. — 39	Parker, Walter L. Co. —
Curran & Barry — 40	Parks-Cramer Co. — 5
Curtis & Marble Co. — 28	Penick & Ford, Ltd. —
Cyclone Fence Co. — 23	Perkins, B. F. & Sons — 8
—D—	Puro Sanitary Drinking Fountain Co. —
Dan Gear Co. — 16	—R—
Dary Ring Traveler Co. — 26	Reeves Bros., Inc. — 40
Davidson, Jos. L. Co. — 42	Republic Chemical Co. —
Diamond State Fibre Co. — 13	R. I. Warp Stop Equipment Co. — 26
Dixon Crucible Co. Joseph —	Rice Dobby Chain Co. — 42
Dixon Lubricating Saddle Co. — 34	Ridley, Watts & Co. — 41
Drake Corp. — 37	Roessler & Hasselacher Chemical Co. —
Draper, E. S. — 26	Rogers Fibre Co. — 14
Draper Corp. —	Root Co. — 33
Dronfield Bros. — 38	Roy, B. S. & Son —
Druid Oak Belting Co. — 27	—S—
Duplan Silk Corp. — 48	Saco-Lowell Shops — 19
Dixon, R. L. & Bros. — 27	Sander, Smith & Co. — 39
DuPont de Nemours, E. I. & Co. —	Sayles Finishing Plants —
Deering, Milliken & Co., Inc. — 40	Scott, Henry L. & Co. — 28
—E—	Seaboard Ry. — 36
Eclipse Textile Devices, Inc. —	Sellers, Wm. & Co. —
Economy Baler Co. — 45	Seydel Chemical Co. — 31
Emmons Loom Harness Co. — 43	Seydel-Thomas Co. —
Entwistle, T. C. Co. —	Siggers & Siggers — 33
—F—	Sirrine, J. E. & Co. —
Fafnir Bearing Co. —	Slip-Not Belting Corp. —
Fairbanks-Morse & Co. — 11	Sonoco Products — 17
Fales & Jenks Machine Co. —	Southern Ry. — 42
Farish Co. — 26	Southern Spindle & Flyer Co. —
Ford, J. B. Co. — 35	Stafford Co. —
Ferguson Gear Co. — 16	Steel Heddle Mfg. Co. — 17
Fournier & Lemoine —	Stein, Hall & Co. — 19
Franklin Process Co. —	Sydnor Pump & Well Co. —
—G—	—T—
Garland Mfg. Co. —	Terrell Machine Co. — 6
General Electric Co. — 4	Texas Cotton — 43
Georgia Webbing & Tape Co. —	Taylor, Chas. — 31
Grove Park Inn — 20	Textile Mill Supply Co. —
Graton & Knight Mfg. Co. —	Thomas Grate Bar Co. — 30
Greensboro Loom-Reed Co. — 33	Thurston Machine Works —
—H—	Tripod Paint Co. —
H. & B. American Machine Co. — 32	—U—
High Joint Loom Reed & Harness Co. —	United Chemical Products Co. — 2
Hollingsworth, J. D. — 36	U. S. Bobbin & Shuttle Co. — 23
Hopedale Mfg. Co. —	U. S. Ring Traveler Co. — 42
Houghton, E. F. & Co. — 9	Universal Winding Co. — 43
Howard Bros. Mfg. Co. —	—V—
Hart Products Corp. — 16	Victor Ring Traveler Co. —
Hyatt Roller Bearing Co. —	Virginia Machinery & Well Co. — 27
—J—	Vogel Joseph A. Co. —
Jones, W. A. & Co. — 39	—W—
Jacobs, E. H. & Co. —	Washburn — 27
Johnson, Oliver & Co. —	Wellington, Sears & Co. — 40
Jordan Mfg. Co. —	Whitin Machine Works — 33
—K—	Whitinsville Spinning Ring Co. — 35
Kaunagraph Co. —	Williams, J. H. Co. —
Keever Starch Co. —	Wolf, Jacques & Co. — 17
Klauder-Weldon Dyeing Machine Co. 31	Woods, T. B. Sons Co. — 27
	Wilts Veneer Co. — 40
	Woodward, Baldwin & Co. —

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WRITE FOR SAMPLES

Domestic Production Of Rayon

(Continued from Page 8)

skains creates for the artificial-silk consumers uncertainty as to the behavior of the yarn spun by manufacturers who permit such a great variation. Only by testing and experimentation can the consumer become aware of the general run and particular characteristics of a brand. Although small deviation in size have no satisfactory results, considerable irregularity in the size of skeins results in difficulties in winding, streakiness in the dyeing process, breakage in the loom, and a lack of uniformity in the product. Standardization of a permissible deviation for artificial-silk yarns, classified by process of manufacture and by size groups, would be of value to the consumer since it is obvious that the effect, for instance, of a 10 or 15 point variation is considerably more serious in the case of yarn of fine construction than in the case of a coarse yarn, such as a 300-denier. For this reason dealers and manufacturers consuming artificial silk will probably demand in the future that spinners fix the range of deviation of various sizes of yarns within limits and designate the average variation on the label of the yarn. Only in this way can accurate comparison be made of the yarns of various manufacturers. An advance in this direction has already been made by one manufacturer who produces skeins of a constant yardage with the denierage ascertained by testing.

Grades.

Not only has no standard of permissible variation in the labeled size of artificial-silk yarn been drawn up, but strictly defined specifications for market grades have up to this time not been determined. The output of the producers is classified into four grades—A, B, C, and inferior—but these categories represent merely the grading of each manufacturer according to standards adopted by him. They do not represent the measurement of quality in relation to a standardized system of classification such as has been recommended but not yet generally adopted for the natural silk trade by the Silk Association of America. Because of this lack of definite market requirements, it is apparent that differences exist in the yarns of the same labeled grade produced by different manufacturers, and the A grade of one manufacturer may possess no more merit than the B quality of another. The consumer is therefore dependent on the reputation of the manufacturer for a satisfactory product. A theoretically perfect skein may be looked upon as one which is a continuous unbroken thread, characterized by (1) evenness, or the absence of very coarse or very tender filaments; (2) uniformity of color; (3) proper dye reactions; (4) uniformity of twist; (5) cleanness, or freedom from defects such as nibs, slugs, split threads, loops, tangled fibers, and fuzziness; (6) permanency of product due to removal of the free acid traces.

Development of Processes.

Artificial silk as a textile fiber is an industrial development of the twentieth century. First patented in France in 1884 by Count de Chardonnet, more than a decade of experimentation elapsed before a yarn of sufficient intrinsic value to warrant manufacture on a large commercial scale was produced. There followed a series of patents, some of which, like those of Lehner and Du Viver, were mere improvements of the pioneer invention. The Chardonnet, or nitrocellulose process, as it is frequently called, has been promoted most extensively in France and Belgium. The French patent of Depeissis in 1890 and the essentially identical one obtained by Pauly in Germany in 1897, introduced, on the other hand, a new process) the cuprammonium. This method, with which are associated also the names of Bronnert, Urban, Linkmeyer, Thiele, and others, was most highly developed in Germany. As a result of the acute shortage and high prices of the raw materials used for the cuprammonium process during the World War, it has largely given way to a rival method—the viscose process. This third process was evolved in England by Stearn, Cross, Bevan, and Beadle, and placed on a successful manufacturing basis by the firm of Samuel Courtauld & Co., at Coventry in 1905. The viscose process is the one which has come to the fore in the last decade, and which is most generally used in the industry throughout the world.⁶ The fourth and most recent development in the technology of artificial-silk production is the cellulose acetate process, perfected in England by the Swiss chemists Henri and Camille Dreyfus, as a result of experiments in the salvaging of the acetate used during the war as a "dope" or varnish for airplane wings.

The various processes are basically similar in their mechanical aspects but differ in the chemical reaction with which they are associated. The Chardonnet, cuprammonium, and viscose processes, while employing different solvents, yield an ultimate product essentially similar in chemical properties. The silk manufactured by these three processes is a hydrated form of cellulose; that is to say, the original cellulose modified into a different physical form by the cycle of chemical treatments to which it has been subjected. The acetate process, on the other hand, producing a finished silk which is an ester,⁷ has chemical properties which distinguish it in a marked degree from the other cellulose silk products.

World Production.

Before the war Great Britain, France, Switzerland, and Belgium were the principal countries with an exportable surplus of artificial silk. Since the war, consumption in these countries, with the exception of Belgium, has kept pace with production, and in the last few years has increased at an even greater

⁶ In Europe it is quite common to find factories producing artificial silk by other processes employing the viscose process also, at least provisionally or as a subsidiary line.

⁷ Worden, E. C., Nitrocellulose Industry, Vol. II, p. 1032.

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Tickets on sale for all trains Friday, May 29th, tickets to Savannah, Jacksonville, Pablo Beach and St. Augustine will be limited to reach original starting point prior to midnight June 5th. To South Florida points tickets will be limited to reach original starting point prior to midnight June 9th.

FROM	TO			
	Savannah, Ga.	Jacksonville, Fla.	Tampa, Fla.	Pablo Beach
Charlotte, N. C.	\$12.00	\$15.00	\$22.00	\$15.50
Monroe, N. C.	10.50	13.50	20.50	14.00
Wadesboro, N. C.	9.00	12.00	19.00	12.50
Hamlet, N. C.	8.00	11.00	18.00	11.50
FROM	TO			
	St. Augustine, Fla.	Daytona, Fla.	W. Palm Beach	Miami, Fla.
Charlotte, N. C.	\$16.50	\$17.75	\$22.50	\$24.00
Monroe, N. C.	15.00	16.25	21.00	22.50
Wadesboro, N. C.	13.50	14.75	19.50	21.00
Hamlet, N. C.	12.50	13.75	18.50	20.00

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E. W. LONG
Division Passenger Agent
Charlotte, N. C.

rate than production. This has brought about a reversal of conditions as compared with the situation before the war, and these countries are now importing more artificial silk than they are exporting. Germany and Austria were large producers before the war and held an important place in the international export trade, but the requirements of the consuming industries in these countries were extensive enough to bring about a net balance of imports. In 1923 Germany had an unprecedented trade balance in artificial-silk yarns, her total net export balance being 2,882,956 pounds. Italy, Germany, Belgium, and the Netherlands are now the principal exporting countries in artificial silk. Production in the two last-named countries is chiefly for export, as there is a very small domestic demand for the product. At the present time the United States is the largest producer, importer, and consumer of artificial silk in the world. The American production has increased in the last decade from one-twentieth to almost one-third of the world output.

The total estimated European production before the war, according to a report issued by the French Ministry of Commerce,⁸ amounted to about 27,260,000 pounds. Adding to this output of the United States there was a probable world production of approximately 28,826,000 pounds,⁹ equivalent to more than one-third of the production of natural silk. It is difficult to arrive at a figure of the present world production, as there is a lack of unanimity in the estimates of various authorities.¹⁰ Figures have been compiled from the reports of foreign representatives of the Tariff Commission, United States consular agents, commercial attaches and trade commissioners abroad trade associations, periodicals, and through interviews with domestic manufacturers in touch with the European industry. The materials collected have been carefully compared and checked against other available indices, such as numbers of laborers, estimated total output per laborer, size and number of plants in operation, exports consumption, etc., in the various countries. Figures of production for 1923, resulting from this method of analysis show that the aggregate output of the principal countries, omitting producers like Sweden, Spain, and Russia, for which no figures were available, approximate an estimated total of 108,800,000 pounds.

⁸ Ministère du Commerce: Rapport General sur L'Industrie Française, 1919, vol. 1, p. 577.

⁹ Ullmann in the Enzyklopadie der technischen Chemie, vol. 7, p. 341 estimates a total world production in 1913 of 9,000,000 kilos, or 19,841,000 pounds. A consular dispatch from J. P. Doughton, Brussels, Belgium, Mar. 8, 1920, reported the estimated pre-war production of 15,000 tons or over 33,000,000 kilograms, or 26,455,200 pounds. Another writer quotes a pre-war production of 15,000 tons or over 33,000,000 pounds. (Giorgio Mortart, Prospective Economique—Opera edita sotto gli auspici della universita Bocconi di Milano, Citta di Castello, 1923, p. 132.)

¹⁰ Production figures for European countries are particularly difficult to procure, since officials are averse to giving out statements or data and appear to believe that the best way of keeping control of the national markets is to prevent as far as possible other nations from obtaining an accurate idea of the production and productive capacity of their mills.

In the artificial-silk industry as a whole there were in 1924 about 77 successfully established companies, controlling 98 plants.

It is interesting to compare the world production of artificial silk with the output of natural silk, estimate at 110,000,000 pounds. In the light of these figures, it is clear that artificial-silk production is rapidly overtaking that of natural silk. The expansion of the artificial silk industry which is occurring in practically every country where it has a foothold will bring the production of cellulose fiber far above that of natural silk in a comparatively short time.

Domestic Production.

History of the industry.—The viscose process, having the advantage of lower production costs, became the basis of the artificial-silk industry as it developed in the United States. The first American patent rights to the viscose process were obtained by the General Artificial Silk Co., Lansdowne, Pa. It failed, however, to manufacture a marketable product and disposed of its rights to the Genasco Artificial Silk Co. This company began in 1905 to overcome the difficulties of its predecessor and operated on a commercial scale for three or four years, turning out 50 or 600 pounds of artificial silk a day at the peak of its productivity. Like the pioneer concern, this company went into bankruptcy. About 1900 the American Viscose Co. was organized at Marcus Hook, Pa., by the producer of viscose artificial silk in England, Samuel Cuortauld & Co. (Ltd.). Backed by the capital and industrial experience of this European concern, the American Viscose Co. was singularly successful from the start. For about 10 years it made the only domestic artificial silk sold in appreciable quantities on the American market. The evolution of artificial silk production in this country up to 1920 is therefore practically the history of this one concern. Several attempts were, indeed, made from time to time to inaugurate and operate artificial-silk plants, but owing to the technical difficulties involved and the outlay of capital required financial failure resulted before the product could be perfected of commercial use.

In 1920 the beginning of a decided expansion of the industry was brought about through the technical assistance and financial support of three large European producers in new concerns organized in this country. Two of these are affiliated with the French and Italian viscose syndicates, while a third company is operating under license from a Belgian plant using the Chardonnet process. A fourth is being organized as a subsidiary of the company exploiting the new cellulose acetate process in England. There are thus at the present time in the United States about five large manufacturers of artificial silk, associated in one way or another with European producers who have attained a commanding position in the industry abroad. There are in addition a small company established in 1914 using modification of the acetate process and two other companies

operating by the cuprammonium and viscose processes in the initial stage of production, making, in all, a total of eight companies in the United States in 1924.

Importance of the industry.—Census figures are not available as to the value of the output of artificial silk, but the importance of the industry may be gauged from estimates of the capital invested, figured to be over \$100,000,000, including \$30,000,000 borrowed.

Raw materials.—Wood pulp from pinaceous trees and cotton linters are the raw stock used in artificial-silk production. The former is the more important of the two, being employed most exclusively in the viscose process which is used in nearly seven-eighths of the domestic artificial-silk production. Very recently cotton linters have been used in a portion of the output made by the viscose method. The consumption of wood pulp in artificial-silk manufacture in 1924 may be roughly estimated at 58,000,000 pounds, this figure being based on an estimated consumption of 150 pounds of wood pulp per 100 pounds of salable artificial silk produced. Whether the material is cotton linters or wood pulp, it must be of superior quality and free from impurities, adhering vegetable greases, and coloring matter. The wood pulp used in the viscose process is a high-grade, long-staple, bleached, chemical sulphite pulp from which all ligneous and resinous materials have been removed. Although the domestic and Canadian varieties are employed by two large concerns, one manufacturer expresses a preference for the Scandinavian.

Under present conditions of free trade in wood pulp, the American manufacturer is at no disadvantage in obtaining the Scandinavian product. The margin between the prices paid by the domestic manufacturer located at or near tidewater and his English and continental competitors is no greater than the difference in marine charges and insurance. In the case of cotton linters the American has the advantage of proximity to a large domestic supply.

As the production of artificial silk is primarily a chemical process, there are a number of chemicals essential as productive agents which enter into a consideration of raw materials. In the Chardonnet process, the chemicals employed are, on the one hand, nitric and sulphuric acids which convert the raw stock into guncotton, or nitrocellulose, and on the other hand, ether and alcohol which dissolve the guncotton to form the collodion spinning solution. Except in degree of concentration, the chemicals are the same as those employed in explosives, pyroxylin products, kodak and moving picture films. Hence the domestic producer of artificial silk by the Chardonnet process has acquired as a part of his factory equipment the nitric and sulphuric acid producing facilities of a former munitions plant. In the viscose process, caustic soda and carbon disulphide are the main solvents employed, while in the cuprammonium method caustic soda and am-

moniacal copper oxide dissolve the cellulose for the spinning solution. For the coagulation of the spun filaments, sulphuric acid and alkaline sulphides are generally employed. There are practically no tariff considerations affecting the availability of any of these chemicals, the domestic supply being ample. The chief chemicals used in the acetate process are tetrachlorethane, acetic anhydride, and acetic acid. Tetrachlorethane is imported; the others are obtained from domestic sources.

Process of manufacture.—As all four processes of producing artificial silk are similar and differ chiefly in the chemical solvents employed, a detailed description will be presented only of the viscose method. The manufacture has three main stages: (a) The production of the solution, (b) the spinning or conversion of the solution into yarn, and (c) the subsequent treatment and preparation of the yarn for the market. The first stage begins with the blending of the sheets of wood pulp, necessary in order to insure uniformity in the finished yarn. A definite number of sheets are sorted from the bales of different batches of stock. The aggregated material then become a manufacturing unit and its progress through the cycle of processes is traceable and under control. After this initial blending the sheets are soaked in a solution of caustic soda, which is pressed out by means of hydraulic presses, drained off, and recovered for further use. The wet sheets after this mercerizing treatment are shredded into fine particles in a cutting mixer. The crumbs are then shot through a manhole into cans which are conveyed to a mercerizing cellar and stored for some time at a stable temperature in order to permit the alkali to diffuse uniformly through the cellulose mass. In the next stage the shredded mercerized pulp is placed in rotating churns, provided with paddle stirrers, into which is poured carbon disulphide, which converts the pulp into an orange-colored plastic spongy mass called "cellulose xanthate." This is dissolved in water to form the viscose spinning solution, a mixture with the consistency and appearance of molasses. The viscose is then drawn into tanks, from which it passes through the meshes of a large number of filter presses to remove the foreign matter and the undissolved cellulose xanthate. After the filtration process the viscose is allowed to mature to bring it to a proper condition of fluidity and homogeneity before being conducted to the spinning machines.

The spinning apparatus is made up of a number of distributing pipes to which are attached branches carrying the spinning nozzles, spraylike structures with perforated tops, which dip into a trough containing a precipitative acid. The viscose spinning solution is forced under high pressure through the minute holes of the nozzles into the fixing or coagulating bath and emerges as bundles of fine, gelatinous filaments. Each of the nozzles or spinnerets furnishes the requisite number of filaments for a single complete thread. As stated, the number of

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FIG. 20
Oblong Basket

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filaments grouped into a thread varies according to the thickness and softness of the yarn desired. The size of the individual filaments depends not only on the concentration of the solution and the ratios of pressure and speed of spinning.

After their emergence from fixing bath, the threads are sufficiently congealed to undergo the operation of reeling into shape for handling. In one modification of the viscose process, using the parallel bobbin system, the yarn is drawn from the bath by crosswinding on glass or aluminum cylinders. The acid-soaked bobbins are then conveyed to a washing shed and thoroughly rinsed; after drying they are removed to the doubling machines. The yarn is then unwound on swifts and reeled into skeins. In another method, however, the thread is carried by a corrugated wheel from the fixing bath to a rapidly revolving "spinning box" or centrifugal machine, where it is built up in annular layers into the shape of a cheese and given simultaneously a slight twist. When a can contains eight or nine thousand yards the cheeses are removed to a storage cabinets and subjected to the penetrating action of sulphur dioxide fumes. As needed the cheeses are taken to the reeling room, where the threads are wound into skeins and laced with cords to prevent tangling. The skeins are next subjected to a chemical treatment to complete the reversion of the viscose by removing the acids and salts adhering from the fixing bath. There follows finally the washing and drying process, further with treatment to impart finish, touch and luster. The skeins are then inspected, graded and weighed for shipment.

The succession of processes, from the raw material in the form of wood pulp to the finished product in the form of bleached artificial silk skeins, involves a period of approximately two weeks. Operation in the spinning department must be continuous to prevent choking the minute capillary tubes with the residuary solution. This would not only involve a loss of time and the creation of waste products but would necessitate either replacement of the tubes or difficult overhauling to remove the residuary solution in the tubes before operation could be resumed.

Artificial-silk plants generally operate all departments except their reeling, finishing, and packing rooms on a three-shift basis seven day a week. Where only one shift is maintained in other divisions than the spinning, these are constructed with a capacity several times greater than that of the spinning depart-

ment in order to maintain the reserve of material necessary for continuous work.

Labor.—Owing to the earlier development and longer history of the industry in Europe, foreign factories have a slight advantage in the supply of trained labor. With the introduction of the eight-hour day in several of the European countries, however, part of this advantage has been temporarily lost. The increase in the labor force necessary as a result of the decrease in the hours of work has somewhat reduced the trained supply and increased the cost of the labor item in the expenses of production. Reports from Europe indicate in some countries even a shortage of workers. Domestic production costs attributable to the item of labor are estimated at from 75 to 80 per cent and in one instance as low as 45 per cent. This last figure is above the estimate of European producers, which is from 30 to 40 per cent. The percentage of labor involved depends to a large extent on the denierage of the yarns as well as on the nature of the process used. The finer the yarns manufactured the greater the amount of labor required. This one factor has heretofore operated against specialization on finer yarn counts below 100 deniers in this country. However, as there is a potential demand, especially from the broad-silk, hosiery, ribbon, and knit-underwear industries, for yarns of fine counts, it is probable that the extension in the industry will be somewhat in this direction, thus bringing about higher average costs per unit of manufacture. Lower labor costs abroad, moreover, would operate to give European manufacturers an advantage in the production of fine yarns.

Because of the difficult processes of manufacture, artificial-silk production involves an intricate correlation between mechanical and chemical operations, and therefore requires a staff of expert chemists, engineers, and supervisor, and a skilled labor personnel. It is necessary for every concern in this country to educate and train most of its labor, inasmuch as experienced labor is not available in so young an industry. Adult male labor is employed for all the chemical and mechanical processes preliminary to and including the spinning of the cellulose solution. After the yarn is spun operations are largely textile in nature, such as twisting, reeling, finishing, grading, etc., for which adult female labor, and to some extent adolescent labor of both sexes, are utilized.

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Clark's Cotton Records

Statistics for Week Ending May 23, 1925.

	1925.	1924.	1923.
Visible supply American cotton	2,368,000	1,499,000	1,434,000
Into sight for week	59,000	96,000	82,000
Mill takings for week	242,000	179,000	148,000
Mill takings since Aug. 1st	12,729,000	9,968,000	10,971,000
Exports for week	87,000	84,000	25,000
Exports since Aug. 1st	7,725,000	5,132,000	4,197,000

Government Reports.

	1925.	1924.	1923.
Acreage this season	40,403,000	38,709,000	34,016,000
Indicated crop July 25	12,144,000	11,412,000	11,065,000
Indicated crop middle of July	11,934,000		
Indicated crop end of July	12,351,000	11,516,000	11,449,000
Indicated crop middle of Aug.	12,956,000		
Indicated crop end of Aug.	12,787,000	10,788,000	10,575,000
Indicated crop middle of Sept.	12,596,000		
Indicated crop end of Sept.	12,499,000	11,015,000	10,135,000
Indicated crop middle of Oct.	12,675,000		
Indicated crop end of Oct.	12,816,000		
Indicated crop middle of Nov.	12,992,000		
Indicated crop end of Nov.	13,153,000		
Ginned to Oct. 1st	4,527,671		
Ginned to Oct. 18th	7,600,826	6,415,145	6,078,321
Ginned to Nov. 14th	11,163,400		
Ginned to Dec. 1st	12,225,000		
Ginned to Jan. 16, 1925	13,308,037		
Ginned to March 20 (final report)	13,618,751		
Carryover beginning cotton year	2,319,000	2,573,000	4,879,000

Cotton Exports.

Following is a comparison of the exports by months in running bales, including linters:

	1924-25.	1923-24.	1922-23.
August	277,641	244,415	272,808
September	737,010	689,435	378,390
October	947,556	781,722	798,664
November	1,306,000	770,002	858,337
December	1,076,000	845,581	607,853
January, 1925	1,076,000	546,253	473,436
February	818,838	482,146	359,657
March	734,697	332,168	318,210
April	472,555	320,774	259,984
May		326,357	160,368
June		230,979	214,851
July		211,633	171,469
	5,772,000	4,864,027	

American Consumption of All Kinds of Cotton, Excluding Linters.

(In running bales, 000s omitted.)

	1924-25		1923-24		1922-24	
	Per Month	Per Season	Per Month	Per Season	Per Month	Per Season
August	357	357	492	492	526	526
September	435	792	484	975	494	1,020
October	530	1,322	542	1,517	534	1,554
November	492	1,814	532	2,049	579	2,133
December	533	2,347	462	2,510	529	2,663
January 3	589	2,936	577	3,088	610	3,273
February, 1925	550	3,486	508	3,595	567	3,840
March	582	4,068	484	4,079	624	4,464
April	597	4,665	480	4,559	577	5,041
May			414	4,991	621	5,661
June			350	5,341	542	6,203
July			347	5,688	463	6,666

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Established 1896

Incorporated 1923

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Print Cloths, Twills, Pajama Checks,
Sheetings, Combed Peeler Yarns

Cotton Goods

New York.—Considerable improvement was noted in the cotton goods markets during the week. Prices were steady as the week closed and sales were the largest for some time. It was estimated that the week's business in gray cloth totaled 200,000 pieces of sheetings, print cloths and similar goods. The jobbing trade reported a steady business in wash goods.

The advance of the cotton market stimulated demand and approximately 100,000 pieces of print cloths and sheetings were sold for future delivery, some of the deliveries running into August. Prices showed an advancing tendency but continued very low in comparison to replacement values. The fixed policy of buying in small quantities continued as one of the drawbacks in the mill situation.

A steady business in fine printed goods and rayon mixtures was reported. The finer qualities of novelty yarn dyed goods sold well and business in fancy ginghams was reported as moderately large.

Reviewing the recent business in sheetings, 6.15 yard stand out as the big volume construction. Some conservative folk have estimated this recent trading in 6.15 yard at ten million yards. The market continued at 6½ net; 5.50 yard sold at 7½ and at 7¼ net for different makes; 36-inch, 5.00 yard, at 8 net, and at ¾ less; 8¼ net for 4.70 yard; 31-inch, 5.00 yard, reported sold at 7½ net, and other reports of ¾ and ¾ less.

A few spot sales of domestic two-ply by single broadcloths were reported made during the last day or two at 32 cents for peeler cottons to 37 cents for pimas. The last price is the same as has been quoted for makes of English with Egyptian yarns. A few spots of two-ply both way sold at 42 cents.

The week in tire fabric has been of slight importance to mills. The tire trade has apparently all the fabric it needs for the time being, although its production is almost at peak. Small filling in orders have been an occasional experience. Prices continue nominal.

There has been good inquiry for duck in various first hand quarters, but the volume of business has not come up to that of last week. Mills could do a considerable business should they accept the same low prices operative last week. With a firmer cotton market the concessions have been contracted to some degree.

Increased interest in the Fall

* Nominal.

River print cloth market towards the latter part of the week resulted in a total of 25,000 pieces sold for the week.

Although this amount is considered quite small, it would have been much smaller but for the fact that some orders in 38½ and 36-inch goods were put through. Of the total sales, about 15,000 pieces were print cloths, and the remaining 10,000 pieces were unlisted numbers.

The first few days of the week were absolutely devoid of interest, so much so that the market bore the appearance of a holiday. Not so much as an inquiry dribbled in, with the result that curtailment made further gains, and will probably continue to do so with the volume of sales at the low point.

During the last two days there has been better interest noted in the 36 and 38½ inch lines, but mills have sold goods only in instances where they were on hand, refusing to go into the future. In a number of cases it has been hard to secure even small amounts of goods, due to the fact that a great many looms operating on these styles have been shut down in the past month.

John V. Farwell Company, Chicago, say in their weekly review of trade:

"The condition of wholesale dry goods sales show increase over corresponding week of last year with renewed interest in many fall lines, especially blankets and napped goods. All silks and silk and cotton goods are active. A good demand has arisen for printed voiles, floral designs in high shades on light grounds in line with the all silk and silk mixed prints and fancies. Buyers have been in market in much larger numbers than during corresponding period in May of last year.

Cotton goods prices were quoted as follows:

Print cloths, 28-in., 64x64s	6%
Print cloths, 28-in., 64x60s	6%
Print cloths, 27-in., 64x64s	6%
Gray goods, 38½-in., 64x64s	9%
Gray goods, 39-in., 68x72s	10%
Gray goods, 39-in., 80x80s	12%
Brown sheetings, 3-yard	13%
Brown sheetings, 4-yard	11%
Brown sheetings, stand.	14%
Ticking, 8-ounce	*26
Denims	19
Staple ginghams, 27-in.	11½
Kid finished cambrics	9½a 10½
Dress ginghams	18½a 21
Standard prints	9½

Southeastern Selling Agency

LESSER-GOLDMAN COTTON COMPANY

OF ST. LOUIS, MO.

P. H. PARTRIDGE, Agent, Charlotte, N. C.

Extra staples, and good 1 1-16 and 1½ cotton from Arkansas, Oklahoma, and Texas, and Memphis territory.

The Yarn Market

Philadelphia, Pa.—Higher prices and a somewhat better demand were evident in the yarn market last week, although sales did not reach large proportions. Yarn prices were advanced throughout the list, and showed an average gain of about one cent a pound. On 30-2 warps, prices moved up a cent and a half to two cents a pound and sales for prompt delivery showed a promising increase. The entire market showed more confidence than has been the case for a week and the total sales were larger than for some time. Hand-to-mouth buying covered most of the transactions, buyers as yet not having showed any great interest in future contracts. Spinners' prices held very firm after the advance. The lower prices of the previous week were generally withdrawn and spinners showed no disposition to accept concessions.

Curtailment of production has increased and there is additional evidence that Southern mills are not going to pile up stocks. A further reduction in production is expected unless there is an immediate improvement in business and the policy of operating only when actual orders are on hand is expected to prove a very beneficial factor in the situation.

The combed yarn situation in Gaston county was reported as very unsatisfactory for the week. It is expected that many of the mills will soon be upon a short time basis. The high price and scarcity of staple cotton and the low prices on yarn have combined to make a very difficult situation for mills on combed yarns.

Yarn prices were published in this market as follows:

Southern Two-Ply Chain Warps.			
2-ply 8s	37 a	2-ply 26s	45 a
2-ply 10s	38 a	2-ply 30s	45 a
2-ply 16s	39 a40	2-ply 40s	57 a58
2-ply 20s	40 a	2-ply 50s	68 a
2-ply 24s	43 a		
Southern Two-Ply Skeins.			
8s	36 a	40s	55 a
10s to 12s	37 a37½	40s-ex	58 a
14s	37½ a	50s	67 a
16s	38 a	60s	70 a72
24s	43 a	3 and 4-ply 34 a	
26s	43 a40	Tinged Carpet	
28s	44 a	White Carpet	
30s	45 a	3 and 4-ply 36 a36½	
36s	54 a		
Part Waste Insulated Yarn.			
6s, 1-ply	33 a	12s, 2-ply	35 a
8s, 2, 3 and		20s, 2-ply	39 a39½
4-ply	33 a	26s, 2-ply	43 a
10s, 1-ply and		30s, 2-ply	44 a
3-ply	34 a		
Duck Yarns.			
3, 4 and 5-ply		3, 4 and 5-ply	
8s	36½ a	16s	39 a40
10s	37 a37½	20s	40 a
12s	38 a		

Southern Single Chain Warps.			
10s	37½ a	24s	43 a
12s	37½ a38	26s	44 a
14s	38½ a	30s	45 a
16s	39 a39½	40s	58 a
20s	39½ a40		
Southern Single Skeins.			
6s to 8s	36½ a	20s	39½ a40
10s	37½ a	24s	42½ a
12s	38 a38½	26s	43 a
14s	38½ a	30s	45 a
16s	39 a		
Southern Frame Cones.			
8s	36½ a	22s	38½ a
10s	36½ a37	24s	41 a
12s	37 a	26s	41½ a
14s	37½ a	28s	42½ a
16s	37½ a	30s	44½ a
18s	38 a	30s yting in 43 a	
20s	38 a	40s	56 a57
Southern Combed Peeler Skeins, Etc.			
2-ply 16s	56 a60	2-ply 50s	85 a
2-ply 20s	53 a62	2-ply 60s	90 a
2-ply 30s	65 a67	2-ply 70s	1 05a
2-ply 36s	68 a75	2-ply 80s	1 05a1 18
2-ply 40s	75 a80		
Southern Combed Peeler Cones.			
10s	50 a	30s	60 a
12s	51 a	32s	62 a
14s	52 a	34s	64 a
16s	52½ a	36s	65 a
18s	53 a	38s	68 a
20s	53½ a	40s	70 a
22s	54 a	50s	75 a
24s	54½ a	60s	85 a
26s	55 a	70s	95 a
28s	57 a	80s	1 10a
Eastern Carded Peeler Thread-Twist Skeins.			
20s, 2-ply	52 a	36s, 2-ply	62 a
22s, 2-ply	53 a	38s, 2-ply	62 a
24s, 2-ply	55 a	45s, 2-ply	69 a
30s, 2-ply	58 a	50s, 2-up	74 a
Eastern Carded Cones.			
10s	42 a	22s	50 a
12s	43 a	26s	52 a
14s	44 a	28s	54 a
20s	49 a	30s	56 a

Yarn Spinners' Bulletin

The weekly bulletin of the Southern Yarn Spinners' Association says:

"Yarn prices and trading were considerably effected by the slump in cotton prices. The last few days, however, yarn prices have stiffened with the continued advance in the price of cotton, and the market now shows a better tone.

"Trading has been in small hand-to-mouth lots. There have been inquiries for quantities of weaving yarns for September-October delivery, but no appreciable business has been realized. The present level of prices is far below replacement costs. Spinners are not interested in quantities at today's prices.

"A canvas of the Eastern market shows but small stocks in dealers' hands. Spinners apparently have no stocks, and such business as has been transacted is for yarns to be manufactured. Additional curtailment is evidenced, more mills being reported going on three days' time effective at once.

"With the slack demand, and practically no stocks, immediate curtailment should have a stimulating effect on the market."

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Tieing-in machine operator who can operate and fix machine. Very light job. Apply T. M. C., care Southern Textile Bulletin.

Wanted

First-class card grinder and fixer for small mill containing three pickers, fifteen cards, two slubbers and three intermediates. Pay 45c per hour. Also want section hand for twelve spinning frames at 33c per hour. In answering furnish references and for other particulars write San Antonio Cotton Mills (Kingsville Dept.), Kingsville, Texas.

\$25.00 REWARD

Stolen from garage of J. C. Carroll, Conestee, S. C., Wednesday night, May 20, 1925, Ford Touring, Motor No. 4,468,336, S. C. No. 66,662. \$25.00 reward for recovery of automobile and arrest and conviction of guilty party. Notify Sam D. Willis, Sheriff, Greenville, S. C.

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Spindle Plumber. Must be first-class or don't apply. Pay 50 cents per hour. Jno. W. Ridenhour, P. O. Box 3, Albemarle, N. C.

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One pair 60 Spindle 11x5½ Woonsocket Slubbers, with chain driven carriage, late model and in perfect condition. High Shoals Mill, High Shoals, N. C.

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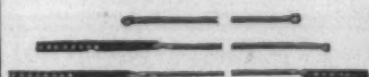
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ROUND TRIP FARE FROM CHARLOTTE, N. C., \$11.00

Special Train Leaves Charlotte 8:30 P. M., May 29, 1925
Arrives Washington 8:15 A. M., May 30th

Tickets on sale May 29th, good to return on all regular trains (except No. 37) up to and including train 39 leaving Washington 10:50 P. M., June 1st, 1925.

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Boston Red Sox vs. Washington Senators, May 30th.
Two games, morning and afternoon.
Athletics vs. Senators, May 31st.

This is a wonderful opportunity to see two major league teams in action against the Washington World Champions. A fine opportunity to visit the public buildings and many other points of interest, including Arlington National Cemetery May 30th Celebration.

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